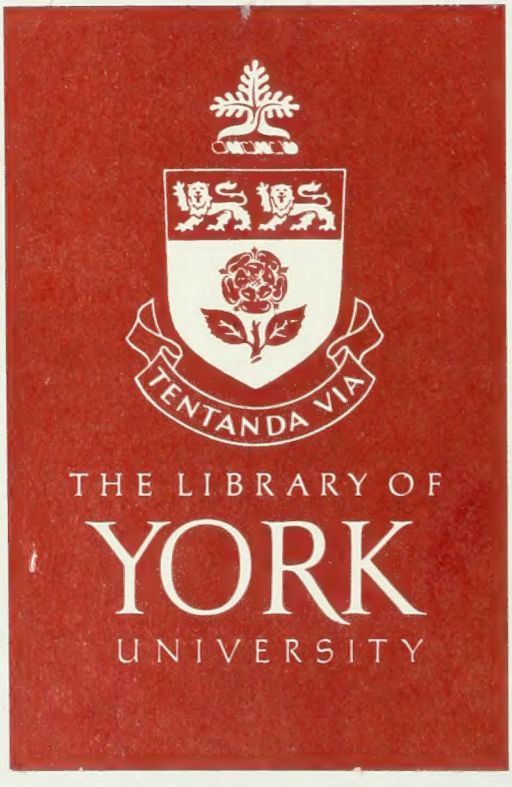
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Volumes VIII and IX contain background studies and papers of the Commission. Most of these papers constitute new research or original work done for the Commission. Selected research material relating to the Canada Pension Plan and the public sector in Ontario has been included in Volumes VI and VII.

Volume VIII contains a market survey by Southam Marketing Research Services, the "Consumer Survey," which is the first study of attitudes of the population in Ontario towards retirement arrangements. This survey may be compared to the recent American survey of attitudes commissioned by Johnson and Higgins and conducted by Louis Harris and Associates, Inc., entitled 1979 Study of American Attitudes Toward Pensions and Retirement (New York).

The statistical probability paper on vesting by Professors Izzet Sahin and Yves Balcer breaks new ground and produces interesting results. The study of coverage by Harry Weitz is a comprehensive review of this issue; and his paper on RRSPs is the first major work of its kind.

Volume IX contains papers by a sociologist, Dr. Daniel Kubat, and by an economist, Dr. Arthur Donner, both of whom were retained by the Commission.

All original research data and papers have been filed with the Archivist of Ontario and are available to the public. In addition, certain staff background papers not reproduced in this report have been filed with the Archivist. All major work of consultants retained by the Commission is reproduced in this report. The only exceptions are the complete CPP computer print-outs which were edited for publication to reduce the quantity of data; the originals are filed with the Archivist.

List of Briefs

The Royal Commission on the Status of Pensions in Ontario received representations from many individuals and organizations throughout the province. Some of them appeared at our hearings and submitted briefs; others (*) forwarded written briefs to us; and a few (+) made oral presentations at the hearings and thus no brief number appears with their names. All of the 391 briefs and the tapes of the proceedings have been deposited in the Archives of Ontario.

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Mr. R.O. Thomas, 39 Division Street, Port Colbourne * 156

Mr. M. Thompson, 14 Michael Avenue, Tilbury * 75

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Thunder Bay Civic Employees Pension Committee, 500 Donald Street East, Thunder Bay * 333

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Thunder Bay Municipal Retirees Association, Mr. V. Poulin, 412 South Norah Street, Thunder Bay 364

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A Survey of the Awareness and Attitudes of Ontario Residents towards Retirement Programs and Particularly Pension Plans

Southam Marketing Research Services

December 1978

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A Survey of the Awareness and Attitudes of Ontario Residents towards Retirement Programs and Particularly Pension Plans

The Royal Commission on the Status of Pensions in Ontario, in addition to holding formal public hearings where interested parties had the opportunity to present their briefs, wished to ascertain, by survey methods, the attitudes, awareness, knowledge, and habits of Ontario residents in regard to pensions and other sources of post-retirement income. To carry out such a survey of adult Ontario residents, the Commission engaged Southam Marketing Research Services, a division of Southam Business Publications Limited. The survey is the end result of a three-phase investigation, which consisted of an introductory exploration, completed in September 1977; a pilot test of question areas and sample design, completed in April 1978; and the major survey, designed to quantify and validate preliminary findings, completed in December 1978.

Because the results from the first two phases were preliminary, this report presents a summary of the major findings of the major study only. Every effort has been made to extract, analyze, and comment upon the significant findings of the research. The complete study is available for consultation in the Archives of Ontario where the papers of the Commission have been deposited.

METHODOLOGY

The final questionnaire was developed from the information gathered in the first two phases of the research and from a number of lengthy discussions with the Commission (see Appendix A for sample questionnaire). It was designed to explore in detail the respondents' knowledge of and attitudes towards both government and private pension plans. Pertinent data were also collected about each respondent's work history and personal experience with pension plans. In order to facilitate the accurate collection of data, cards containing a written description or definition were designed for the interviewer to hand the respondent while asking each complex question (see Appendix B). In this way respondent confusion was kept to a minimum.

The Commission agreed with us that the results of this study should be applicable to the population of the province as a whole and should be accurate within at least plus or minus 2.6 percentage points at the 90 per cent confidence level (see Appendix C). Thus a multi-stage stratified random sample of 1,000 adults 18 years of age and over was selected to participate in the survey. The sample was selected in the following manner (see Appendix D for sample design):

- In order to ensure a representative distribution of the sample, the province was divided into six economic regions - Eastern Ontario, Metro Toronto, Central/Bruce, Hamilton peninsula, Southwest Ontario, and Northwest Ontario - and interviewing quotas were assigned to each of these regions in proportion to the population 18 years of age and over.

- Previous research indicated that the size of the community in which respondents reside has a bearing on the amount of post-retirement income they perceive they will need. So that the sample would be as bias-free as possible, within each economic region, quotas were assigned in proportion to the population 18 and over by city size groupings:

Stratum 1	500,000 and over
Stratum 2	100,000 - 499,999
Stratum 3	30,000 - 99,999
Stratum 4	10,000 - 29,000
Stratum 5	1,000 - 9,999
Stratum 6	less than 1,000 (farm and rural non-farm)

- Therefore, in essence, the sample selected was proportional to the regional adult population and to city size within each region.

- Within each region cities and towns were listed by city size on the basis of the 1976 census and from this array municipalities in which interviewing was to take place were selected. Maps of the selected municipalities were obtained, and the boundaries of all residential census tracts in urban areas were transferred to the maps. In a similar manner the boundaries of enumeration areas were mapped for rural interviewing areas.

- All census tracts and enumeration areas were numbered, and a table of random numbers was used to select both census tracts and enumeration areas in which interviewing was to take place.

- Within each census tract or enumeration area, all blocks were numbered and, again using a table of random numbers, four - two primary and two secondary - interviewing blocks were selected. Secondary blocks were used only when the appropriate primary block failed to yield the required number of interviews.

- Detailed maps of the selected census tract or enumeration area were prepared for the interviewers. On each map primary and secondary blocks were indicated and colour coded. For each selected primary and secondary block, the starting position was marked as well as the direction the interviewer was to take in travelling door to door. It should be noted that starting points and the direction of travel were rotated from block to

block throughout the study in order to reduce bias, if any, to a minimum. For any one selected block, a total of eight starting points and travel directions were possible.

- Interviewers were instructed to obtain five completed interviews from each primary block selected.

- Once a household was contacted, the interviewer took a census of all household members 18 years of age and over. The Trohldahl-Carter Grid (see Appendix E) was used to select the individual to be interviewed in each chosen household. No other member of a selected household could be substituted. This method of sample selection effectively eliminates interviewer bias and produces as representative a final sample of the population as possible.

- In the cases where the selected respondent was not available at the time of original household contact, the interviewer was instructed to call back at least two more times before selecting another residence in which to interview.

- Subject to normal constraints of time and budget, such a sample will have characteristics that are very close to those of the population from which it was drawn. However, all personal interview, sample-based surveys conducted in-home by the private sector tend to under-represent the segment of the population living in apartment buildings because security doors, guards, doormen, and other restrictions make it almost impossible for interviewers with no official status to gain access to a building and canvass door-to-door as they would on a residential street.

Thorough briefings were held with the selected interviewers during which they familiarized themselves with the questionnaire, its administration, and sample selection procedures. During the actual conduct of the fieldwork between October 11 and October 31, 1978, head office field supervisory staff were in close contact with interviewers throughout the province.

Accurate records of all interviewing attempts that did not result in an interview were kept so that a disposition of the sample could be compiled (see Appendix F). The single most frequently mentioned reason for non-completion was that either nobody was at home after three calls or the specified respondent was out after three calls.

A total of 972 interviews were completed throughout the six economic regions as follows: Eastern Ontario, 139; Hamilton peninsula, 187; Metro Toronto, 262; Southwest Ontario, 114; Central/Bruce, 211; and Northwest Ontario 59.

When the fieldwork was done, completed interviews were returned to head office for editing, coding, and tabulation. Categories for open-ended responses were developed, and questionnaires were checked for completeness and adherence to skip patterns. All data were keypunched onto IBM data cards (100 per cent verified), the cards were machine edited and corrected, and the results were tabulated. The tabulation plan, developed in consultation with the Commission, consists in a series of economic, demographic, and occupational cross-tabulations of each question posed to each respondent.

While the sample was designed to be proportional to the population by region, Northwest Ontario was under-represented when the final returns were tallied. For this reason, a weighting factor - calculated as 85/59 = 1.439 - was introduced to reflect the proper population profile of that region. A weight of 1.0 was applied to each other region. This brought the Northwest region's effective representation to 85 people and the effective total sample up to 998.

After the detailed statistical tables were produced, each one table was reviewed with particular attention to the consensus that emerged as well as divergences in opinion that became apparent. Data considered to be of significant interest or of major importance were compiled into summary tables for analysis. The resultant summary tables were then grouped by subject matter. A draft report, together with the detailed statistical tables, was then reviewed by both the Commission and the consultants prior to the preparation of this final report.

RESPONDENTS' HISTORY AND CURRENT STATUS

Although the primary purpose of this study was to determine the respondents' attitudes towards and plans for post-retirement income, valuable insight was gained into the pattern of employment of the population of Ontario 18 years of age and over.

In order to ascertain the respondents' current labour-force status, certain definitions were established by the Commission. The "unemployed" were defined as those who were "currently out of work but actively looking for work." A person was considered to be "retired" if less than 50 per cent of total income were paid from employment, and if pension income other than a disability pension were being received. In addition, respondents were classified as currently working or currently not working. They were considered in the labour force if they were currently working (self-employed; employed by another person, company, or organization; or employed by any level of government); unemployed; laid off or on strike; or on vacation or ill. Respondents were defined as not in the labour force if they were currently retired; a homemaker; a full-time student; or in some other non-working unspecified situation.

The demographic distribution of respondents was compared to that of the 1976 census population and/or to the labour force. In many cases a direct comparison was difficult because of the differences in definition between the study and those used by Statistics Canada. For example, Statistics Canada places post office workers in the general category of "transportation and communications" in the Standard Industrial Classification (SIC) and the Unemployment Insurance Commission in "finance, insurance, and real estate," while respondents classed themselves in the broader category of government employees. However, in those areas where differences in definition were non-existent or marginal, the study closely reflects the make-up of the Ontario adult population as shown in the 1976 census (Table 1).

Table 1
Composition of the Ontario Adult Population by Age Group and Sex, Survey Sample and 1976 Census

	Survey sample	1976 census
Total adult population	998	5,705,886
Age group	(Per cent)	
18-34	32.4	41.5
35-54	34.4	33.3
55 and over	33.2	25.2
Sex		
Male	50.6	49.0
Female	49.4	51.0

Source Question 21.

The differences in age composition between the survey population and that of the 1976 census reflect the difficulty in locating and interviewing young, mainly single, independent members of society. This situation usually results in under-representation of young adults (Table 2).

Table 2
Marital Status of Ontario Adult Population, Survey Sample and 1976 Census

	Survey sample	1976 census
	(Per cent)	
Marital status		
Never married	13.7	20.2
Married	71.1	68.2
Separated	3.4	2.8
Divorced	2.7	1.9
Widowed	8.7	6.9

Source Question 22.

Using the definitions previously described, the employment status of our 998 respondents is shown in Table 3.

Table 3
Employment Status of Survey Sample Population

	Number	Per cent
In the labour force		
Employed	505	50
Unemployed	35	4
Laid off/on strike	15	2
On vacation/ill	9	1
Total	564	57
Not in the labour force		
Retired	165	17
Students	33	3
Homemakers	216	21
Other	19	2
Total	433	43
Did not state status	1	-
Total	998	100

Source Questions 1a, b, g.

Of the 564 respondents who stated that they were in the labour force, 61 or 11 per cent were self-employed; 348 or 62 per cent were employed by others in the private sector; and 92 or 16 per cent were employed in the public sector. Of the 505 respondents who were currently working, 427 or 85 per cent were employed full time, compared with Statistics Canada's estimate of 86 per cent for those 15 years of age and over; 77 or 15 per cent were part-time workers, compared with Statistics Canada's figure of 14 per cent for those 15 years of age and over. The unemployed (35) accounted for 6 per cent of those in the labour force, and those temporarily not working because they were laid off, on strike, on vacation, or ill (24) accounted for 4 per cent of the labour force. Roughly two-thirds of the labour force was male. However, unemployment was evenly divided between male (51 per cent) and female (49 per cent), reflecting a higher than average rate of unemployment among women (Table 4).

On average, respondents reported 1.6 wage-earners per family. The only notable pattern was that the higher the total family income, the greater the number of wage-earners per family. For example, at an annual income of $20,000 or more, the number of wage-earners per family was 1.9.

On average, the women remain unemployed longer than men, the duration of their periods of joblessness averaging 11.9 months compared with 5.1 months unemployed for men (Question 1j). Although the average duration of unemployment is 8.5 months, it should be noted that almost half of the unemployed had been without work for less than four months, the

average being 1.5 months. This seeming anomaly is probably due to the 5 respondents who appeared to be chronically unemployed, averaging 19 months of joblessness.

Table 4
Labour Force Status of Survey Sample Population, by Age Group and Sex

	Employed		Unemployed		Total	
	(Number)	(Per cent)	(Number)	(Per cent)	(Number)	(Per cent)
Age group						
18-34	188	33	18	3	206	36
35-54	240	44	11	2	251	46
55 and over	99	17	5	1	104	18
Sex						
Male	351	62	18	4	369	66
Female	176	31	17	3	193	34

Source Questions 1a, b, g.

Labour Force Mobility

Almost all those interviewed (91.1 per cent) reported that they had been employed at one time. Only 88 stated that they had never worked. The lower the annual family income, the lower the incidence that some members ever had gainful employment (Question 3a). On average, those who reported a work history entered the labour force at 20 years of age. Low-income respondents entered the labour force at an average age of 17 years, while those with higher incomes delayed entry until age 20 or 21.

Table 5 represents the respondents' reported work history at one point in time, including those respondents who had just entered the labour force and some who had completed their work experience. The average respondent had held 3.2 jobs and experienced a hiatus between these jobs of 8.6 months. The hiatus between jobs, on average, appeared rather lengthy, amounting to almost three-quarters of a year. However, this was caused by the relatively high incidence of respondents who left the labour force for an extended period of time before they came back into the job market and started looking for work. It would appear that the more jobs a person had held, the less likely they were to leave their current job. This excludes a small segment of the labour force that was extremely mobile. The majority (83 per cent) who left their jobs and did not leave the labour force found work within one month. The incidence of people leaving the labour force appears to have decreased over time, from almost one-third of respondents leaving after their first job to one-fifth of respondents leaving after their sixth job.

When job mobility patterns are viewed on the basis of the sex of the respondent a number of significant differences between the male and female segments of the labour force can be observed (Table 6). Women appear to be far more likely than men to leave the labour force after

their first job. However, a relatively high percentage of these women later re-entered the labour force (61 per cent or 28.4 per cent as a percentage of 46.8 per cent). Women left the labour force at this stage in their career development primarily to undertake homemaker and child-care activities. Later on in their careers, the incidence of women leaving the labour force declined, but over a period of six jobs the rate for women continued to be substantially higher than that for men. The result of these phenomena is that women spend about three times longer than men between jobs, they tend to keep their jobs for shorter periods of time, and the ratio of women to men in the labour force decreases over time from 47 per cent women at the first job level to 30 per cent at the sixth job level.

Table 7 illustrates the job mobility of respondents who have held at least one job by age group. Those aged 18 to 34 appear to take less time to find a new job than do older people and are considerably more mobile; their average length of time in any one job is lower than the average for older respondents. In general, approximately the same percentage of young people as others left the labour force when they left their previous employment. However, as was to be expected, a higher percentage of younger workers re-entered the labour force after each hiatus.

Job Mobility and Pension Benefits

In order to ascertain the opportunity for respondents to receive pension benefits from past as well as present or most recent employees, data were collected on the number of employers respondents had worked for, the number of employers who offered a pension plan, the incidence of the respondents' eligibility to join available plans, the incidence of the respondents' joining such plans, the incidence of their withdrawing contributions to these plans upon termination of employment, and the incidence of their receiving a pension from current and past employers. In total, the 998 respondents worked for an average of 3.3 employers, for a total of 2,800 employers. Of these, 175 were self-employers and 2,604 or 93 per cent were employers of other people. These 2,800 employers provided jobs for 910 respondents (88 stated that they had never held a job) for an average of 6.1 years per employer, and 91 per cent employed these respondents full time (Question 4).

The data in Table 8 show the incidence of employers who provided the opportunity for an employee to receive a company pension. It should be noted that only 26 per cent of all previous employers provided a pension plan for employees, whereas 54 per cent of the present and most recent employers offered this benefit. The 2,800 employers were to provide 431 pensions; however, the majority of these pensions (302 or 70 per cent) will be derived from the present or most recent employer. Not only did fewer previous employers offer a pension plan, but also fewer employees of their enterprises were eligible to join, presumably because of age or tenure. However, when an employee was eligible to join a plan,

Table 5
Incidence of Job Mobility among Respondents Who Have Held at Least One Job

	1st Job	2nd Job	3rd Job	4th Job	5th Job	6th Job	7th Job
Number of respondents	894	694	513	316	194	119	54
				(Per cent)			
Did not leave job	10.2	16.0	21.1	24.7	27.8	37.8	31.5
Left job	89.8	84.0	78.8	75.3	72.2	62.2	68.5
Did not leave labour force	57.1	54.9	49.6	48.1	49.5	39.5	48.1
Did not find work	.2	1.2	1.2	2.2	1.5	3.4	1.8
Found work immediately	47.4	46.5	41.2	40.5	43.9	31.9	38.9
Found work after one month or more	9.5	7.2	7.2	5.4	4.1	4.2	7.4
Left labour force	32.7	29.1	29.2	27.2	22.7	22.7	20.4
Returned to work	21.5	19.0	14.4	14.6	14.5	9.2	9.3
Did not return to work	11.2	10.1	14.8	12.6	8.2	13.5	11.1
				(Years)			
Average duration of all jobs Held	5.91	4.76	4.74	4.34	3.99	3.99	3.13
Average length of time between jobs	.73	.71	.56	.55	.35	.30	

All "no" and "don't know" answers to each question have been removed.

Source Question 3.

Table 6
Incidence of Job Mobility among Respondents Who Have Held at Least One Job, by Sex

	1st Job		2nd Job		3rd Job		4th Job		5th Job		6th Job	
	M	F	M	F	M	F	M	F	M	F	M	F
Number of respondents	476	429	392	319	300	222	199	130	130	70	87	38
						(Per cent)						
Did not leave job	12.8	7.0	18.6	12.2	27.7	15.3	24.7	26.1	26.2	34.3	43.7	31.6
Left job	87.2	93.0	81.4	87.8	72.3	84.7	75.3	73.9	73.8	65.7	56.3	68.4
Did not leave labour force	68.5	46.2	66.4	43.6	59.0	37.4	57.3	35.4	56.9	35.7	36.8	42.2
Did not find work	.2	.2	1.0	1.3	1.3	.9	1.5	3.1	.8	2.9	2.3	5.3
Found work immediately	55.7	37.1	55.5	33.2	50.4	27.0	48.8	23.8	49.9	27.1	29.9	31.6
Found work after one month or more	12.6	8.9	9.9	9.1	7.3	9.5	7.0	8.5	6.2	5.7	4.6	5.3
Left labour force	18.7	46.8	15.0	44.2	13.3	47.3	18.0	38.5	16.9	30.0	19.5	26.2
Returned to work	14.5	28.4	11.2	27.0	8.3	22.1	9.5	20.8	10.0	20.0	8.0	10.5
Did not return to work	4.2	18.4	3.8	17.2	5.0	25.2	8.5	17.7	6.9	10.0	11.5	15.7
						(Years)						
Average duration of all jobs held	7.20	4.47	5.29	4.11	5.26	4.04	4.91	3.46	4.52	2.99	4.55	2.70
Average length of time between jobs	.38	1.19	.29	1.26	.24	1.04	.18	1.25	.17	.73	.18	.52

Source Question 3.

Table 7
Incidence of Job Mobility Among Respondents Who Have Held at Least One Job, by Age Group

	1st Job			2nd Job			3rd Job			4th Job			5th Job			6th Job		
	18-34	35-54	55+0	18-34	35-54	55+0	18-34	35-54	55+0	18-34	35-54	55+0	18-34	35-54	55+0	18-34	35-54	55+0
Number of respondents	284	329	293	203	280	229	126	214	183	65	137	126	33	89	77	17	53	55
									(Per cent)									
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Did not leave job	18.3	9.4	2.7	26.6	17.9	5.2	30.2	25.7	12.6	38.4	28.5	16.7	39.3	33.7	18.2	41.1	45.2	34.6
Left job	81.7	90.6	97.3	73.4	82.1	94.8	69.8	74.3	87.4	61.6	71.5	83.3	60.7	66.3	81.8	58.9	54.8	65.4
Did not leave labour force	47.9	63.2	61.1	47.8	56.4	62.9	41.3	49.1	55.1	43.2	48.9	50.0	48.5	48.3	51.9	47.1	45.3	29.0
Did not find work	.7	-	-	2.0	1.1	.4	3.2	.9	-	3.1	2.2	1.6	3.0	2.3	-	5.9	1.9	3.6
Found work immediately	37.0	52.6	49.8	35.9	47.8	50.7	30.2	39.3	48.0	33.9	40.1	39.7	36.4	41.5	45.4	35.3	37.7	21.8
Found work after one month or more	10.2	10.6	11.3	9.9	7.5	11.8	7.9	8.9	7.1	6.2	6.6	8.7	9.1	4.5	6.5	5.9	5.7	3.6
Left labour force	33.8	27.4	36.2	25.6	25.7	31.9	28.5	25.2	32.3	18.4	22.6	33.3	12.2	18.0	29.9	11.8	9.5	36.4
Returned to work	24.3	21.9	17.4	15.3	20.7	17.0	12.7	15.4	13.7	9.2	16.8	12.7	6.1	12.4	18.2	11.8	5.7	10.9
Did not return to work	9.5	5.5	18.8	10.3	5.0	14.9	15.8	9.8	18.6	9.2	5.8	20.6	6.1	5.6	11.7	-	3.8	25.5
									(Years)									
Average duration of all jobs held	2.94	5.52	9.22	2.48	4.72	6.85	2.38	4.42	6.74	2.11	3.84	6.03	2.23	3.52	5.52	1.87	3.23	5.40
Average length of time between jobs	.49	.77	.89	.48	.79	.75	.29	.64	.62	.20	.80	.39	.13	.30	.47	.13	.38	.27

Note: All "no" and "don't know" answers to each question have been removed.

Source Question 3.

94 per cent of both past and present job-holders participated. The stated incidence of non-contributory pensions was very low at 5.5 per cent of all pensions offered.

Table 8
Incidence of Employers Offering Pension Benefits

	Total		Present or most recent employer		All previous employers	
Number of employers	2,800		910		1,890	
	(Number)	(Per cent)	(Number)	(Per cent)	(Number)	(Per cent)
Employer had/has pension plan	989	35.3	492	54.1	497	26.3
Employee eligible to join plan	836	29.9	445	48.9	391	20.7
Employee was/is member of plan	790	28.2	419	46.0	371	19.6
Employee contributed to plan	743	26.5	391	43.0	352	18.6
Employee did not contribute to plan	41	1.5	24	2.6	17	.9
Employee will receive a pension from contributory plan	206	7.4	90	9.9	116	6.1
Employee will receive a pension from non-contributory plan	28	1.0	23	2.5	5	.3
Employee is no longer with employer will receive pension	234	8.4	113	12.4	121	6.4
Employee is still with employer will receive pension	178	6.4	178	19.6	-	-
Employee withdrew contributions	238	8.5	56	6.2	182	9.6
Employee not permitted to withdraw contributions	136	4.9	53	5.8	83	4.4
Employee withdrew contributions will get pension	19	.7	11	1.2	8	.4
Total employers offering a pension	431	15.4	302	33.2	129	6.8

Source Question 4.

Upon termination of employment, 47.4 per cent of pension plan members withdrew their contributions; of these, 56.7 per cent spent their

refund and did not save or invest the funds for future benefits. However, between 50 and 60 per cent of those pension plan members who left an employer were to receive a future benefit, either through savings and investments or company pensions, including those who stated they would receive a pension and those who withdrew pension contributions but saved or invested the money. Of those employees who were members of a pension plan with previous employers, 34.8 per cent expect to receive a pension, compared with 72 per cent pension of the recipients currently or most recently employed who were members of a plan.

The incidence of RRSPs among professional respondents (21.9 per cent) was double that of the survey group (11.9 per cent). This is obviously a direct reflection of the higher-than-average income of the professionals. This ratio also holds for management. These groups are also more likely to receive a pension than are other occupational groups in the sample except for skilled labourers. Table 9 illustrates the comparative likelihood that those employed in specific industries will receive a pension and/or invest in an RRSP. Data include currently retired respondents. It is obvious that the likelihood of having either a pension or an RRSP was lower in wholesale or retail trade than in any other industries in this sample.

Table 9
Likelihood of Receiving a Pension and/or Investing in an RRSP, by Employees in Specific Industries

	Incidence in sample	Likelihood of	
		Pension	RRSP
		(Per cent)	
Agriculture	3.5 = 100	57	109
Forestry	1.2 = 100	167	100
Fishing and trapping	-	-	-
Mines, quarries, oil wells	1.9 = 100	242	26
Manufacturing industries	22.3 = 100	126	94
Construction industry	4.0 = 100	73	135
Transportation, storage, and communications	6.7 = 100	127	93
Wholesale trade	2.5 = 100	48	36
Retail trade	13.5 = 100	48	79
Finance, insurance, and real estate	4.8 = 100	83	90
Communications, business, and personal service industries	16.7 = 100	68	115
Government, all levels	16.6 = 100	158	123
Self-employed	2.8 = 100	32	136
Other	2.4 = 100	38	79

Those respondents with higher incomes are more likely to have post-secondary education, to own an RRSP, and to receive a company pension (Question 28). For example, upon examination of total family income we found that 62.7 per cent of all RRSP-owning families earned in excess of

$15,000 annually. Over half (53.8 per cent) of them stated they would receive a pension in excess of $15,000 annually (Question 29).

ATTITUDES TOWARDS GOVERNMENT AND RELATED RETIREMENT INCOMES

In order to determine attitudes towards government retirement benefits and knowledge of the administration and funding of public money, respondents were asked early in the questionnaire what sources of retirement income they expected to have when they retired. Those relating directly to government sources are examined in this section.

As is shown in Table 10, roughly 85 per cent of respondents expect income from the Canada Pension Plan (CPP) and Old Age Security (OAS) pensions. With 17.2 per cent not anticipating benefits from OAS, which is universal, and a total of 19.1 per cent anticipating benefits from

Table 10
Proportion of Respondents Who Expect to Receive Retirement Income from Various Government Programs

Number of respondents	998
	(Per cent)
CPP	85.9
OAS	82.8
GIS	9.0
GAINS	8.8
Welfare	1.3

Source Question 2a.

the Guaranteed Income Supplement (GIS), the Ontario Guaranteed Annual Income System (GAINS), and welfare, it would appear that knowledge of the intent of these programs and the segments of society for which they were put in place were not too clear in the minds of our respondents.

Respondents were then asked if the income they expected would stem from their own contributions, their spouse's contributions, or if they both expected to contribute (Table 11). It is obvious that some respondents considered tax payments as a form of contribution from their families to be used to provide government income assistance. But, except for the CPP, none of the programs is a direct contributory scheme. Perhaps some respondents were confused either by the question or by the terminology.

Currently working respondents were then asked if they were contributing to the CPP. The self-employed were isolated from other currently working respondents to determine what proportion of this group contributes to the CPP in comparison with those employed by others (Table 12). Although their incidence of contribution is high, the percentage of self-employed contributing falls below the average for those employed by

others. Both the 7.1 per cent of those employed by others and the 23 per cent of the self-employed respondents who did not contribute believed they were ineligible. Only 2 respondents - both male, 1 young (18 to 34) and 1 older (55 and over), both married and both self- employed - said they had never given the matter any thought.

Table 11
Sources of Contributions to Various Government Programs

	Own contributions	Spouse's contributions	Both contributions
		(Per cent)	
CPP	59.3	15.3	25.4
OAS	54.5	12.2	33.3
GIS	50.7	15.5	33.8
GAINS	64.1	4.7	31.2
Welfare	75.0	25.0	-

Source Questions 2b, c, d.

Table 12
Proportion of Those Currently Working Who Contribute to CPP, Employees and Self-employed

	Self-employed	All employees
Number of respondents	61	505
	(Per cent)	
Contribute	73.7	90.9
Do not contribute	23.0	7.1
Do not know/Not applicable	3.3	2.0

Source Question 1e.

In order to ascertain general public knowledge of the current maximum CPP monthly payment to a single person retiring this year, respondents were asked to estimate this amount, with no suggestion of the range of possible amounts from the interviewer (Table 13). For ease of analysis, the interviewer placed the answer given by the respondent into ranges from less than $100 to more than $300. Of all respondents, 74 per cent either did not know or incorrectly estimated the payment; among retired people, 59.5 per cent either did not know or estimated incorrectly.

Respondents were then told the exact current amount of the CPP benefit ($194.44) and asked if they thought it was too high, about right, or too low (Table 14). The majority of respondents thought the payment was too low. However, a surprising 41.8 per cent of retired people thought this payment was about right, or 1.5 times as many retired respondents gave this opinion as other respondents in the total sample.

Table 13
Respondents' Knowledge of Maximum CPP Payment to a Single Person Retiring in 1978

	Total	Retired
Number of respondents	998	165
	(Per cent)	
Identified range		
Correctly	26.0	40.5
Incorrectly	22.9	12.1
Did not know	51.1	47.4

Source Question 8a.

Table 14
Respondents' Opinion of Current Maximum Payment to a Single Person

	Total	Retired
Number of respondents	998	165
	(Per cent)	
Benefit payment is		
Too high	.8	1.8
About right	27.0	41.8
Too low	62.4	43.8
Did not know/No answer	9.8	12.6

Source Question 8b.

Respondents were also asked if they would be prepared to contribute more to the CPP in order to receive higher benefits at age 65 (Table 15). Of the 570 respondents who said they would be willing to contribute more to the CPP, 17.2 per cent were retired, 5 per cent were unemployed, 19.3 per cent were currently not in the labour force, 34.4 per cent were between the ages of 18 and 54, 35 per cent lived in cities of 500,000 or more, and 71 per cent were not married. Of the 291 respondents who would not be willing to increase their contributions, 13.1 per cent were retired, and 28.2 per cent were not in the labour force. However, well over half of those interviewed stated a willingness to increase their CPP contributions, indicating a possible range of between 52.7 and 63 per cent of current CPP contributors who would like to contribute more to receive more. As the respondent was given no idea of what these increases would be or how much CPP pensions would increase, this finding should be considered directional only.

Currently, those people who elect to retire before age 65 do not receive CPP and OAS benefits until their sixty-fifth birthday. Respondents were asked if people who elected to retire early should receive these benefits before the age of 65 and, if they did receive benefits prior to 65, whether they should receive the same amount as that paid to people 65 or over (Table 16). In general, respondents favoured CPP/OAS

benefits being paid immediately upon retirement and preferred a lower amount for those younger than 65. The retired were very slightly but not significantly more in favour of this proposition than the average respondent. Assuming that the "Did not know" and "Did not state" respondents would align themselves in the same proportion as those who did express an opinion, approximately 60 per cent of all respondents would be in favour of an immediate pension but a lower payment for those who retired before age 65.

Table 15
Incidence of Willingness to Pay Higher Contributions to CPP

Number of respondents	998
	(Per cent)
Willing to pay higher CPP contributions	
Yes	57.1
No	29.1
Did not know/No answer	13.8

Source Question 8g.

Table 16
Respondents' Attitudes towards Payment of CPP and OAS Benefits to Early Retirees

Number of respondents	998
	(Per cent)
Benefits should be withheld until 65	36.4
Benefits should be paid immediately upon retirement	53.8
Did not know/Did not state	9.9
Payment should be equal to amount paid to age 65 retirees	36.0
Benefits should be an amount less than that paid to age 65 retirees	49.8
Did not know/Did not state	14.2

Source Questions 9a, b.

Respondents were then asked if they agreed or disagreed with the current practice of paying CPP benefits to those over the age of 65 who were still working (Table 17). The majority of respondents agreed that this practice should be continued.

Respondents were also asked if child-raising years should be eliminated from CPP pension calculations in order that the CPP benefit for those who drop out of the labour force to raise children would not be negatively affected (Question 11). The majority of respondents (69.7 per cent) agreed with this proposition, with females (72.9 per cent) being significantly more in favour of the idea than males (66.4 per cent), and

younger people aged 18 to 34 (78.7 per cent) more in favour than the 35 to 55 and over age groups (65.3 per cent).

Table 17
Respondents' Attitude towards Workers over 65 Years of Age Receiving CPP Benefits

Number of respondents	998
Workers over 65 should receive CPP	(Per cent)
Agree	69.1
Disagree	25.3
Did not know/No answer	5.6

Source Question 10.

The proposition was also put to the respondents that homemakers and adults not currently in the labour force should be allowed to contribute to the CPP (Table 18). While 7 out of 10 respondents agreed with these propositions, currently married respondents (70.5 per cent) were more in favour of homemakers contributing than were those who were widowed, separated, or divorced (63.4 per cent). The retired were less in agreement with these propositions than others currently not in the labour force.

Table 18
Respondents' Attitude towards Homemakers and Adults Not in the Labour Force Contributing to CPP

	Homemakers	Adults not in the labour force
Number of respondents	998	
	(Per cent)	
Should be allowed to contribute to CPP		
Agree	73.9	69.4
Disagree	19.4	20.1
Did not know/No answer	6.7	10.5

Source Questions 12, 13.

To determine respondents' attitudes towards the CPP more fully, the present funding method (cross-generation) and a proposed generation self-funding method were explained to those interviewed. Once the interviewer was sure they understood the difference in principle, they were asked what method they would prefer (Table 19).

If the respondents who did not state an opinion were removed from the calculations, approximately 55 per cent of those who did answer prefer generation self-funding and, of these, 78.7 per cent stated they would be willing to increase their CPP contributions in order to pay for their own retirement benefits. However, it should be pointed out that

this 78.7 per cent represents only 43.1 per cent of all respondents asked the question on funding (Table 20).

Table 19
Preferred Method of Funding CPP Benefits

Number of respondents	998
	(Per cent)
Preferred funding method	
Cross-generation	38.8
Generation self	47.1
Did not know/No answer	14.1

Source Question 14a

Table 20
Respondents Who Prefer Generation Self-funding Willingness to Increase CPP Contribution

Number of respondents	470
	(Per cent)
CPP contribution should be increased	
Yes	78.7
No	12.1
Did not know/No answer	9.2

Source Question 14b.

In order to determine the perceived adequacy of current government benefit programs to retired people over the age of 65 with no other income, respondents were asked to give their estimates of the minimum monthly income required by today's standards for one person and a couple in this category (Question 17a). Respondents mentioned incomes ranging from under $200 per month to over $1,500 per month. However, the average required incomes reported of $517 for one person and $786 for two are considerably higher than payments under the current government assistance programs. There are indications that the residents of major urban areas believed that more income is required for a single person ($549) than do residents of smaller centres (average $504). Males feel more is required ($541) than females ($490). Those currently married ($527), civil servants ($562), those currently earning over $15,000 per annum ($547), university graduates ($546), and respondents who have RRSPs ($565) all estimated more than the average income. These same groups of respondents thought that a retired married couple required more income than the $746 average income reported.

Respondents were then informed of the current maximum incomes provided through government programs ($310.75 per month to a single 65-year-old retired person and $621.50 per month to a married couple in the same category). Additional benefits such as free OHIP and free drugs were also mentioned as part of the total program. Given this informa-

tion, respondents were asked if these programs should pay more and, if so, how much more (Table 21). Of the 63.9 per cent of respondents who thought the payments should be increased, the average increases suggested were $223 for a single retired person and $246 for a retired couple. Males, however, wanted a $270 increase to a married couple and those never married thought a $287 increase was in order.

Table 21
Respondents' Attitude towards Adequacy of Government Retirement Income Programs

Number of respondents	998
	(Per cent)
Should pay more	
Yes	63.9
No	27.8
Did not know/No answer	8.3

Source Questions 17b, c.

Next, the respondents were asked if they agreed or disagreed with the proposition that retirement income from government or employer pension programs should provide not only for a person's current needs but also allow for an accumulation of assets to pass on to the next generation (Table 22). If the uncommitted responses were removed from Table 22, 72.5 per cent would disagree that government incomes should allow for the accumulation of assets as stated previously, and 64.4 per cent would disagree that company pensions should allow for accumulation. Respondents were slightly more in favour of accumulation from company pensions. Of those who agreed with accumulation, most were younger and never married.

Table 22
Attitudes towards Assisted Accumulation of Assets

	Government pensions	Company pensions
Number of respondents	998	
	(Per cent)	
Pensions should allow asset accumulation		
Agree	24.8	29.9
Disagree	65.3	56.4
Did not know/No answer	10.0	13.7

Source Question 18a.

A general question regarding increasing of government assistance to people over the age of 65 was asked of all respondents (Table 23). Three-quarters or 76.6 per cent of respondents agreed that such assistance should be increased and the majority of them believed that this assistance should be in the form of more money.

Table 23
Respondents' Attitude towards Government Assistance to Those over 65 Years of Age

Number of respondents	998
	(Per cent)
Government should increase assistance	76.6
Government should not increase assistance	14.8
Did not know/No answer	8.7
Total number preferring increase	764
Assistance should be more money to buy goods	59.5
Assistance should be more subsidized services	36.9
Assistance should be both	3.0
Did not know/No answer	.7

Source Question 18b.

Along with income benefits related to government, respondents were informed that the current Human Rights Code provides protection to workers between age 40 and 65 years from firing for reasons of age and were asked if this Code should be amended to provide the same protection to workers over age 65 (Table 24).

Table 24
Respondents' Attitude towards Amendment of Human Rights Code to Protect Workers over the Age of 65

Number of respondents	998
	(Per cent)
Code should be amended	60.1
Code should not be amended	30.9
Did not know/No answer	9.0

Source Questions 16a, b, c.

More than half of the respondents thought the Code should be amended and, when asked if a new upper age limit should be set, 77.7 per cent of those saying the Code should be amended did not want an upper age limit. Of those who wished a new upper limit, 70 was the most frequently mentioned age with the average being 68 years of age.

A statement was read to the respondents explaining what "indexing" was and pointing out that full indexing increases pension costs. No estimate of increased costs was given. Respondents were then asked if they believed that the CPP and OAS pensions should be indexed and, if they agreed with indexing, if they would prefer to pay the increased cost through general taxation or through increased contributions. Those who did not agree with full indexing were asked if they would agree that some part or some percentage of these pensions should be indexed.

Table 25
Respondents' Attitudes towards Indexed Government Pensions

	CPP	OAS
Number of respondents	998	
	(Per cent)	
Pensions should be totally indexed and paid through general taxes	57.1	60.4
Pensions should be totally indexed and paid through increased contributions	13.9	11.7
Pensions should be totally indexed, but respondents did not know how to fund	7.1	6.5
Pensions should be totally indexed, but not funded by either taxation or contributions	6.5	6.2
Total	84.7	84.9
Pensions should be partially indexed	1.3	1.6
Pensions should have a percentage increase	1.2	1.1
Did not know if any form of indexing or increase should be provided	10.6	10.3
Do not want any form of indexing or percentage increase	2.2	2.1

Source Questions 19a, b, c, d, e.

From Table 25 it is apparent that there was a definite desire among respondents to have these benefits fully indexed, but the preference to have the increased cost paid through general taxation would suggest that there is some confusion about the administration of these pensions. It may be that there is an "asked-first" bias, as these findings contradict results from other similar questions.

PROVISIONS FOR AND ATTITUDES TOWARDS VOLUNTARY RETIREMENT INCOME

In order to compare respondents' expectations of retirement incomes and the actual ways in which they were saving or investing to provide income in retirement, all respondents were asked: "What sources of retirement income do you (did you) expect to have when you retire(d)?" In total, nineteen specific ways in which a person could save or invest (or earn or inherit) money to provide for retirement income were read to the respondent. In addition, for each source of expected income, respondents were asked if they or their spouse, or both, had made contributions. The eight most mentioned sources, excluding government related sources, are shown in Table 26.

The single most frequently mentioned source of retirement income was a personally owned home (average 65.5 per cent). This as a source of income has many possibilities; for example, the retired might live

rent-free, sell the home upon retirement, or rent part or all of their home to provide income. More than half the respondents expected to save money for retirement, and an additional 30.4 per cent stated that they expected income from investments. As has been shown elsewhere, expectations rise as annual incomes rise. In general, the expectations of the 35 to 54 age group were marginally higher than those of younger or older people (Table 27). The 35 to 54 age group were counting on a personally owned home as the single largest investment they have.

Table 26
Sources of Expected Retirement Income, by Total Family Income

	Total family income					
	Under $6,000	$6,000-$9,999	$10,000-$13,999	$14,000-$19,999	$20,000 or more	Average
	(Per cent)					
Company employee pension	19.2	36.9	52.3	58.0	61.6	51.2
Insurance company annuities	10.9	7.5	16.9	20.5	29.9	21.3
RRSPs	3.9	4.3	19.7	26.9	41.9	26.1
Savings	39.8	49.2	61.6	60.1	73.0	61.9
Investment income	10.9	20.2	29.6	36.6	54.7	38.9
Post-retirement employment	2.6	6.9	7.0	16.5	22.5	13.6
Inheritance	2.6	5.4	6.4	6.6	18.1	10.5
Personally owned home	52.6	46.4	59.8	70.3	75.9	65.5

Source Questions 2a, b, c, d.

Table 27
Sources of Expected Retirement Income by Age Group

	Age group			
	18-34	35-54	55 and over	Average
	(Per cent)			
Company employee pension	50.3	54.8	48.4	51.2
Insurance company annuities	27.4	25.0	11.5	21.3
RRSP	27.1	33.1	18.3	26.1
Savings	62.5	62.4	61.0	61.9
Investment income	39.1	42.9	34.4	38.9
Post-retirement employment	19.5	15.4	6.0	13.6
Inheritance	15.7	12.0	3.8	10.5
Personally owned home	58.7	73.3	64.1	65.5

Source Questions 2a, b, c, d.

Table 28 shows the expected retirement income from eight sources by contributor and by sex. Males decidedly expected income from their own

contributions, with savings and a personally owned home partially as a result of both spouses contributing; females expected the majority of their retirement income from both spouses' contributions.

Table 28
Sources of Contributors' Expected Retirement Income by Sex

	Contributions								Total
	Male				Female				
	Own	Spouse	Both	Average	Own	Spouse	Both	Average	average
Company plan	50.5	2.0	8.0	64.4	12.4	18.1	6.8	37.8	51.2
Annuities	21.0	.6	2.4	24.8	4.6	7.8	5.2	17.7	21.3
RRSPs	23.8	.8	4.6	30.5	6.6	8.6	6.5	21.9	26.2
Savings	35.2	.4	24.7	64.7	13.6	11.5	32.0	59.0	61.9
Investments	27.4	.4	13.1	43.1	7.7	8.2	17.7	34.6	38.9
Job in retirement	12.1	.4	3.2	16.8	3.0	3.0	4.1	10.3	13.6
Inheritance	5.9	-	2.8	10.2	3.7	1.4	4.5	10.7	10.5
Home	27.0	.8	31.3	64.9	9.6	10.1	44.0	66.1	65.5

Source Questions 2a, b, c, d.

Examination of these expected sources by "never marrieds" and "marrieds" revealed some interesting differences (Table 29). The never marrieds, mostly younger people, did not expect to own their own home to the same extent as those now married and have higher expectations of inheritance - again a reflection of age.

Table 29
Expected Sources of Retirement Income of Marrieds and Never Married

	Never Married	Married
Number of respondents	137	710
	(Per cent)	
Company employer pension	48.4	55.2
Insurance company annuities	30.3	28.7
RRSPs	4.4	4.7
Savings	62.9	64.6
Investment income	42.3	41.2
Post-retirement employment	16.0	15.4
Inheritance	16.7	10.0
Personally owned home	39.0	72.9

Source Questions 2a, b, c, d.

When expectations were broken down by employment status, very few differences were found between self-employed and employed by another, with exception of anticipated company pensions (Table 30).

Table 30
Sources of Expected Retirement Income, by Employment Status

	In the labour force			Not in the labour force		Average
	Self-employed	Employed	Unemployed	Retired	Others	
	(Per cent)					
Company plan	16.4	59.6	17.2	51.9	39.5	51.2
Annuities	23.3	25.3	28.7	10.9	19.0	21.3
RRSPs	38.3	32.4	31.5	10.9	24.0	26.2
Savings	63.3	62.5	70.1	58.0	64.0	61.9
Investments	53.3	42.3	32.8	35.0	36.1	38.9
Job in retirement	21.7	16.8	28.7	3.0	12.4	13.6
Inheritance	11.7	11.2	17.2	5.1	11.8	10.5
Home	70.0	68.0	58.6	55.8	69.8	65.5

Source Question 2.

The high incidence of self-employed expecting incomes from voluntary contributions reflects the lack of planned pension incomes for this group. But again, all segments planned on owning their own home.

Later on in the questionnaire, respondents were asked how they were actually saving for retirement income (Table 31).

Table 31
Ways in Which Respondents Are Now Saving for Retirement(a)

	Insurance company annuities	RRSPs	Savings	Investments	Personally owned home
			(Per cent)		
In the labour force					
Self-employed	27.0	38.5	61.5	46.7	75.4
Employee	20.9	27.7	60.8	36.2	63.0
Unemployed	20.1	22.9	57.3	22.9	34.4
Not in the labour force					
Retired	7.9	13.3	61.3	30.2	61.3
Others	11.2	13.6	46.9	26.7	56.9
Average	16.1	21.3	57.4	32.2	59.4

a Company employer pension is not included because it was not listed as a way of saving in this question and was explored in detail elsewhere.

Source Question 2e to j.

As expected, a personally owned home was very high on the list of ways to save except among currently unemployed, but even the unemployed were saving directly for their retirement to a larger extent than indirectly through investments.

When these five sources of retirement income were compared, some differences emerged (Table 32). In some instances, expectations exceeded reality. For example, expectations among the unemployed were high (70.1 per cent), but only 57.3 per cent were actually saving. On the other hand, more self-employed were saving for a home than were reported expecting income from this source. Basically, the retired appeared to have been somewhat disappointed in their expectations, as were those not now in the labour force, except for their own home and savings. Those who were not now saving for retirement reported, on the whole, that they just did not have income available to put aside because there were demands on their money.

Table 32
Comparison of Expected and Saved for Retirement Income

	In the labour force			Not in the labour force	
	Self-employed	Employee	Unemployed	Retired	Others
	(Per cent)				
Insurance company annuities					
Expect	23.3	25.3	28.7	10.9	19.0
Saving for	27.0	20.9	20.1	7.9	11.2
RRSPs					
Expect	38.3	32.4	31.5	10.9	24.0
Saving for	38.5	27.7	22.9	13.3	13.6
Savings					
Expect	63.3	62.5	70.1	58.0	64.0
Saving for	61.5	60.8	57.3	61.3	49.9
Investments					
Expect	53.3	42.3	32.8	35.0	36.1
Saving for	46.7	36.2	22.9	30.2	26.7
Personally owned home					
Expect	70.0	68.0	58.6	55.8	69.8
Saving for	75.4	63.0	34.4	61.3	56.9

Source Questions 2e to j.

"

Some questions were asked respondents about "locking-in," "vesting, and withdrawal of pension contributions in employer pension plans. The basic question was what should be done with contributions when contrib-

uting and/or non-contributing employees leave an employer before retirement age. Respondents were asked whether employees should be required to leave any portion of contributions in the plan and whether employers should be required to leave any portion of their contributions in the plan at that time (Table 33).

Respondents were slightly more inclined to require employers to leave contributions in the plans than were employees. However, they were evenly split on employees' contributions. Those respondents who stated that they would receive a pension (347) were more in favour of leaving employee contributions in the company pension plan (56.6 per cent) than were other segments of the sample (average 49.3 per cent). Self-employed respondents were much less likely to favour this approach (34.5 per cent) than other respondents, perhaps because there are fewer pension plans open to them. The self-employed were less likely to favour leaving employers' contributions in pension plans (43.4 per cent) than the average respondent (58.4 per cent), while those who were to receive a pension were significantly more in favour of this proposition (68.8 per cent) than the average respondent (58.4 per cent).

Table 33
Attitudes towards Leaving Employee and/or Employer Contributions in Company Pension Plans

	Employee's contributions	Employer's contributions
Number of respondents	998	998
	(Per cent)	
Contributions should be left in plan		
Yes	49.4	58.4
No	48.6	38.6
Did not know/No answer	2.0	3.0

Source Questions 5a, 6a.

Of those who agreed that some portion of the contributions should be left in the pension plan, the average amount was approximately 75 per cent for both employee and employer contributions (Table 34). Those respondents who had never been married advocated leaving less of the employee's contributions in the pension plan (61.1 per cent) than the average, and those who were to receive a pension wished considerably more retained in the plan (80.5 per cent) than the average. The next question asked, if some portion of the contributions should remain in the plan, whether the age at which the employee left the company should be a criterion (Table 35). The majority (68.4 per cent) did not feel that age should be considered, once the principle of leaving a portion of an employee's contributions in the pension plan was established. Those who felt age should be a criterion said that, on average, an employee should be at least 45 years of age at severance before being required to leave a portion of contributions in that company's pension plan. An even higher percentage of respondents (72.8 per cent) did not

feel age should be taken into consideration when leaving a portion of the employer's contributions in a pension plan, if an employee left before retirement; 19.1 per cent who felt that age should be considered thought the employee should be at least 46 years of age.

Table 34
Proportion of Contributions to be Retained by Those Who Agreed Contributions Should Remain in the Plan

	Employee's contributions	Employer's contributions
Number of respondents	492	583
	(Per cent)	
Amount that should be left		
25 per cent	14.2	10.8
50 per cent	24.9	23.7
75 per cent	5.7	4.0
100 per cent	52.2	59.0
Did not know/Not applicable	3.0	2.5
Average	74.7	78.5

Source Questions 5b, 6b.

Table 35
Age as a Criterion of Leaving Contributions in Company Pension Plans, by Respondents Who State that Contributions Should Be Left in Plan

	Employee's contributions	Employer's contributions
Number of respondents	492	583
	(Per cent)	
Age should be a criterion		
No	68.4	72.8
Yes	24.4	19.1
Did not know/Not applicable	7.2	8.1
Average age given by those	(Years)	
stating age should be a criterion	45.1	46.4

Source Questions 5c, 6c.

Next, respondents were asked if the number of years the employee had worked for the company should be a qualifier (Table 36). Again most (63.7 per cent for employee's contributions, and 60.5 per cent for employer's contributions) did not consider length of service to be a necessary criterion. The self-employed were slightly more emphatic than the average respondent about applying length of service conditions to employee's contributions; 71.4 per cent said the requirement should apply no matter how long the employee had worked for the company. Those who believed length of service should be a factor in the decision to retain employee contributions or not had an average tenure with a company

of 11.7 years; when considering employer contributions, their tenure was 10.8 years.

Table 36
Length of Service as a Criterion of Leaving Contributions in Company Pension Plan, by Respondents Who Agreed that Contributions Should Be Left in Plan

	Employee's contributions	Employer's contributions
Number of respondents	492	583
	(Per cent)	
Length of service should be a criterion		
No	63.7	60.5
Yes	28.5	33.2
Did not know/Not applicable	7.8	6.3
Average service of those stating that	(Years)	
length of service should be a criterion	11.7	10.8

Source Questions 5d, 6d.

Exploring this area still further, respondents were queried about the idea that employees should be allowed to withdraw an employer's contributions from a plan even if the employees themselves did not contribute (Table 37).

Table 37
Respondents' Attitudes towards Employees Withdrawing Employer's Contributions from a Non-Contributory Pension Plan

Number of respondents	998
	(Per cent)
Employees should be allowed to withdraw	
Yes	38.8
No	49.8
Did not know/No answer	11.4

Source Question 7a.

Here we saw a slight reversal. The majority (approximately 50 per cent) did not see this as a viable situation, and 11.4 per cent would not venture an opinion. Of those who thought that employees should be allowed to withdraw employers' contributions from non-contributory plans, the average acceptable withdrawal was nearly 80 per cent of contributions (Table 38).

When asked, as in the previous question, if age should be a factor, most respondents who thought employees should be allowed to withdraw did not think that age upon leaving the company should be considered (Table 39). Of those who thought age should be a factor, 49 was considered the average age considered appropriate.

Table 38
Proportion of Withdrawable Contributions from a Non-Contributory Plan, by Those Stating that They Should Be Allowed to Withdraw

Number of respondents	387
	(Per cent)
Amount of withdrawable contribution	
25 per cent	7.4
50 per cent	26.2
75 per cent	3.1
100 per cent	58.8
Did not know/No answer	4.5
Average	79.7

Source Question 7b.

Table 39
Age as a Criterion of Employees Being Allowed to Withdraw from a Non-Contributory Pension Plan

Number of respondents	387
	(Per cent)
Age should be a criterion	
Yes	12.3
No	82.0
Did not know/No answer	5.7
	(Years)
Average age specified	48.6

Source Question 7c.

Length of service in this situation was also not thought to be a necessary criterion for withdrawal of employees contributions. However, those who thought length of service should be considered stated that the employee should have worked for the company an average of three years (Table 40).

Respondents were asked specifically about current and past ownership of RRSPs (Table 41). As with other voluntary savings and/or investments, self-employed respondents reported a greater incidence of RRSP ownership than the average respondent.

In Table 42 ownership of RRSPs is shown by age, sex, and income. More males than females, more respondents with higher incomes, and more respondents from the 35 to 54 age group reported ownership of RRSPs. These respondents also owned slightly more RRSPs than the average respondent. As with other savings and investments, the amount of discretionary income was directly related to financial planning.

Table 40
Length of Service as a Criterion of Employees Being Allowed to Withdraw Contributions from a Non-Contributory Pension Plan

Number of respondents	387
	(Per cent)
Length of service is a criterion	
Yes	26.3
No	67.9
Did not know/Not applicable	5.8
	(Years)
Average length of service specified	2.6

Source Question 7d.

Table 41
Incidence of RRSP Ownership by Employment Status

	Have RRSPs now	Did have RRSPs	Average number of RRSPs owned
		(Per cent)	
In the labour force			
Self-employed	40.1	5.5	1.6
Employed by another	27.1	3.5	1.4
Unemployed	17.2	3.5	1.6
Not in the labour force			
Retired	12.7	6.2	1.6
All Others	15.6	2.1	1.2
Average	22.0	3.7	1.5

Source Questions 2e, f, g, h, i.

Those respondents who reported RRSP ownership were asked if they had, in addition to RRSP investments, an employer pension plan, a deferred profit-sharing plan, or a Registered Retirement Investment Fund (RRIF) (Table 43). The incidence of RRIF ownership was unexpectedly high, as this plan has only recently become available. Perhaps there was some confusion with the terminology as other registered income funds obtainable from financial institutions or insurance companies might have been mistakenly identified as RRIFs.

Respondents with current or past RRSPs were asked what they planned to use (or did use) the money for (Table 44). For easier analysis, responses to this question were calculated out of the total number of RRSPs owned; that is, 248 respondents owned a total of 358 RRSPs over time. In total, 80.1 per cent of the RRSPs will be used or were being used for retirement purposes. More men than women reported the main use was for retirement, as did more respondents in the 35 to 54 age group.

Table 42
Incidence of RRSP Ownership, by Age Group, Sex, and Income

	Have RRSPs now	Did have RRSPs	Average number of RRSPs Owned
		(Per cent)	
Age group			
18 - 34	15.6	2.0	1.2
35 - 54	30.4	4.8	1.6
55 +	19.5	4.5	1.4
Male	25.6	5.1	1.6
Female	18.2	2.5	1.3
Income			
Under $6,000	1.3	2.6	1.0
6,000-9,999	5.4	3.9	1.1
10,000-13,999	15.7	4.2	1.1
14,000-19,999	21.7	4.8	1.3
20,000 and over	34.4	4.5	1.6
Average	22.0	3.7	1.5

Source Question 2.

Table 43
Incidence of Ownership of Other Plans in Addition to RRSPs

Number of respondents owning RRSPs	248
	(Per cent)
Have an employer pension plan	51.5
Have a deferred profit-sharing plan	8.2
Have a registered retirement investment fund	6.9

Source Question 2i.

As with government related incomes and pensions, respondents were asked about total and partial indexing of pensions for federal and provincial politicians, civil servants, and employers (Table 45). Respondents were more in favour of total indexing than any other proposition put forward in this area. However, the preference for paying for indexing through general taxation was at variance with attitudes stated by these respondents in other areas. An "asked-first" bias is possible and should be taken into consideration when assessing the data.

It is evident that respondents were more in favour of totally indexing pensions that are perceived to benefit private-sector employees rather than those benefitting public-sector employees. Almost 2 out of

every 10 respondents did not want elected politicians to receive any form of pension indexing or increase. Younger respondents (18 to 34) and those in larger population centres were more in favour of indexing federal MP pensions than were others. Older respondents (55 and over) and those in semi-rural or rural areas were more opposed to indexing these pensions than were the retired respondents. As far as provincial MPP pensions were concerned, more rural residents and more older people were again opposed to total indexing, while people in larger cities and those who had never been married were slightly more in favour compared with the average response. Indexing of both federal and provincial civil service pensions was not favoured as much by those widowed, divorced, or separated; by those earning under $6,000 per year; or by retired respondents.

Table 44
Expected Use of RRSPs by Age Group, Sex, and Income

	Total RRSPs	Use all for retirement	Use all for other purposes	Use for both	Did not state use
Number of RRSPs	358	286	33	26	12
	(Per cent)			(Number)	
Age group					
18 -34	19	16	9	11	1
35 -54	51	55	13	10	4
55 +	30	29	11	5	7
Male	64	64	21	16	9
Female	36	36	12	10	3
Income					
Under $6,000	1	1	1	-	-
6,000-9,999	3	2	3	1	-
10,000-13,999	5	4	2	2	1
14,000-19,999	15	14	6	5	3
20,000 and over	52	56	12	11	2
In labour force					
Self-employed	12	13	5	2	-
Employed by another	56	56	17	16	7
Unemployed	3	4	1	-	-
Not in labour force					
Retired	14	13	6	4	3
All others	15	15	4	4	2
Total planned/actual use of RRSP	100.0	80.1	9.3	7.3	3.4

Source Question 2h.

Company or employer pensions should be totally indexed as far as the majority (74.6 per cent) of respondents was concerned. The self-employed were not as much in favour as those employed by others (64.8 vis-à-vis 76.8 per cent), but this was a direct reflection of the low incidence of employer or company pensions among these respondents. Civil servants were also not as favourably disposed towards this proposition (69.6 per cent) as was the majority of respondents.

Table 45
Respondents' Attitudes towards Total and Partial Indexing of Specific Types of Pensions

	Federal MPs	Provincial MPPs	Civil servants	Employers
Number of respondents		998		
		(Per cent)		
Pensions should be totally indexed and paid for through general taxes	24.2	24.4	36.6	41.9
Pensions should be totally indexed and paid for through increased contributions	9.6	9.7	12.4	16.4
Pensions should be totally indexed, but did not know how to fund	5.1	5.2	7.0	7.6
Pensions should be totally indexed, but not funded through taxation or increased contributions	6.5	6.4	8.2	8.6
Total in favour of total indexing	45.4	45.7	64.2	74.5
Pensions should be partially indexed	10.7	10.6	5.3	3.2
Pensions should have percentage increase	3.6	3.6	2.3	1.2
Did not know if any form of indexing or increase should be provided	20.4	20.2	17.1	15.1
Did not want any form of indexing or percentage increase	19.7	19.7	11.0	5.9

Source Questions 19 a, e.

When it came to paying for the increased cost of fully indexing federal MPs pensions, 24.2 per cent of respondents wished this cost to be assessed through general taxation, 9.6 per cent through increased contributions from contributors, 5.1 per cent did not know how to pay

the cost, and 6.5 per cent wanted these pensions fully indexed but not through the two alternatives given. Similar attitudes prevailed towards provincial MPPs pensions. However, respondents were more inclined to pay for civil servants' and employers' pensions through increased contributions (12.4 and 16.4 per cent, respectively). Fewer respondents wanted partial indexing for these types of pensions than for those of MPs, and fewer respondents did not want any form of indexing or increase applied to civil servant and employer pensions (5.9 per cent).

Males seemed more likely to want all fully indexed pensions paid for through general taxation than did females, and younger people were more in favour of this form of assessment than older people. Respondents' level of education did not appear to influence this preference, but income did. As income increased, willingness to fund all types of pensions through general taxes also increased. Age was also a factor in respondents' willingness to pay for full indexing through increased contributions. The older the respondents the less willing they were to prefer this way of meeting increased costs. Widowed, divorced, and separated respondents were less likely to want to increase contribution than those currently married, possibly because they have reduced incomes. Again, the higher the income, the higher the preference for paying through increased contributions, and those who stated they would receive a pension were less in favour of this alternative than were those who would not.

Of the 447 respondents who stated that they were to receive an employer pension, a surprising 36.3 per cent stated that they wished to receive more information about their pension (Question 20c, d). Of these, the most frequently mentioned desired information was how and where pension fund money was invested and how much pension would they receive. Closely following these questions was the stated desire for all available information on pensions. Retired respondents stated the most important information was the exact amount of pension they would receive.

PROFILE OF RETIRED RESPONDENTS

In view of the fact that the Commission defined the retired as those who receive less than 50 per cent of their total income from paid employment and who are in receipt of a pension other than for a disability, it was thought that this segment of the sample should be analyzed in isolation to provide a clearer picture of "profiles" of retired respondents. Therefore, this section presents detailed research findings as they relate to retirees only, and any meaningful comparisons with other segments of the sample are discussed in the summary.

In total, 165 respondents in the survey qualified as retired, 99 of whom were male and 66 were female. Only 3 were under 55 years of age. About 30 per cent were from cities with a population of 500,000 or over;

31 per cent were from smaller cities of 100,000 to 419,999; 16 per cent were from centres of 10,000 to 99,999; and 23 per cent were from centres of 10,000 population and under and rural areas. Most (67 per cent) were now married. Excluding 44 respondents who did not state their income, the average total personal income was $6,900 per year; and, on average, these respondents had been retired 7.5 years. Females tended to have been retired longer than males - average 10.1 years compared with 6 years - and the widowed, separated, and divorced an average of 11.4 years. On average, those with lower incomes had been retired longer than those with higher incomes (at under $6,000 annual income, the average length of retirement was 9 years and at $20,000 and over 5.5 years). Those with lower levels of education had been retired longer than the average (8.2 years to 7.5 years), and those who were not receiving a company pension longer (9.1 years) than those who were (5.5 years).

Retired respondents were asked what sources of retirement income from government and related areas they had expected (Table 46).

Table 46
Retirees' Expected Sources of Retirement Income from Government Programs

Number of respondents	165
	(Per cent)
CPP	74.0
OAS	90.7
GIS	18.1
GAINS	10.8

Source Question 2a.

It should be noted that the GIS and GAINS expectations were probably inflated by actual receipt of benefits, as the number of GIS payouts is double the sample expectation of receipts and the GAINS payouts are 2 percentage points higher than the expectations.

Expected sources of voluntary retirement incomes show that the retired had lower expectations in all cases than the survey averages (Table 47).

The next question asked respondents to state the contributor to these expected incomes (Table 48). Both partners contributed to a personally owned home and savings, while CPP, OAS, employer pensions, and investment income derived mainly from a respondent's own contributions.

As with other respondents, the retired were asked to report their working history, starting with the age they first entered the labour force, the number of jobs held, the length of time in each job, the length of time between jobs, and the reasons for these hiatuses in their working careers. Of the 165 retired respondents, 9 stated that they had never worked and the 156 who had worked gave an average age upon enter-

ing the work force of 21. The average number of jobs reported was 3.34 per retired respondent (Table 49).

Table 47
Retirees' Expected Sources of Retirement Income from Non-government Programs

Number of respondents	165
	(Per cent)
Company/employer pensions	51.9
Insurance company annuities	10.9
RRSPs	10.9
Savings	58.0
Investment income	35.0
Personally owned home	55.8

Source Question 2.

Table 48
Sources of Contributions to Retirees' Expected Incomes

	Own	Spouse's	Both
		(Per cent)	
CPP	55.0	9.3	7.9
OAS	49.2	6.9	18.2
GIS	9.0	1.8	3.0
GAINS	5.4	1.2	.6
Company/Employer pension	40.8	9.3	1.2
Insurance company annuities	7.9	2.4	-
RRSPs	7.3	1.8	1.8
Savings	32.0	4.2	17.6
Investment income	20.5	4.2	8.5
Personally owned home	22.9	4.2	27.5

Source Questions 2b, c, d.

The average number of jobs held by the retired people in our sample is only slightly higher (3.34) than the average (3.25). Note, however, that by the end of the sixth job, 91 per cent of the respondents had left the labour force for good. At the 10-job level, only 2 currently retired respondents were still in the labour force. The time between jobs also decreased significantly from job to job, with respondents taking a fair length of time between jobs 2 and 3, and 3 and 4.

Employer history and opportunity to take advantage of a pension plan was broken down by number of employers, not by any demographic criteria; therefore, there was no opportunity to examine the retired respondents' answers (Questions 4b to n). From Question 2j, we were able to ascertain that no one had a deferred profit-sharing plan, 1 person had a RRIF, and 18 people had an employer pension in addition to an RRSP. Only 18 per cent of retired people reported current or previous

ownership of RRSPs, and these 30 people reported owning an average of 1.6 RRSPs. When asked to what purpose these RRSP benefits were to be used, 73.5 per cent of RRSP-owning respondents said all was being used for retirement, 12.2 per cent stated they were using the money for other purposes, and 8.2 per cent were spending partly on retirement and partly for other purposes.

Table 49
Incidence of Job Mobility among Retired Respondents Who Held at Least One Job

	1st	2nd	3rd	4th	5th	6th
Number of respondents	155	114	89	57	35	25
			(Per cent)			
Did not leave job	-	-	-	-	-	-
Left job						
Did not leave labour force						
Did not find work	-	-	-	-	-	-
Found work immediately	52.9	50.9	47.2	38.6	48.6	32.0
Found work after one month or more	7.7	10.5	4.5	10.5	11.4	8.0
Left labour force						
Returned to work	12.9	16.7	12.4	12.3	11.4	16.0
Did not return to work	26.5	21.9	36.0	38.6	28.6	44.0
Cumulative total leaving labour force	26.5	42.6	63.2	77.4	83.9	91.0
			(Years)			
Average duration of all jobs	11.26	6.98	7.26	6.71	5.23	5.39
Average length of time between jobs	.60	.72	.72	.46	.26	.20

Source Questions 3c-e, 4a.

Respondents were also asked in what way or ways they had saved for their retirement (Table 50). Although only 10.9 per cent of these respondents stated that they expected to have RRSP benefits, in actual fact 13.3 per cent had invested in these plans. While 58 per cent expected to have savings available, 61.3 per cent actually had saved funds for use in retirement; and while 55.8 per cent expected to own their own home, 61.3 per cent were in their own home. Some 35 per cent of the retired expected to invest for future benefits but actual investment was reported by only 30.2 per cent of them. However, it is interesting to note that this generation did, in fact, make an effort to provide for themselves in their old age, basically through savings and buying a house. Only 26 people or 15.7 per cent of the retired respondents stated that they had not put money aside for retirement purposes. The most frequently mentioned reason for not saving was that they had "no money available to save." The next most mentioned reason (19.2 per cent) was that there were too many other priorities (Question 2k).

Table 50
Retirees' Methods of Saving for Retirement

Number of respondents	165
	(Per cent)
Government annuities	6.7
Union pensions	1.8
Insurance company annuities	7.9
RRSPs	13.3
Credit union annuities	1.8
Savings	61.3
Investments	30.2
Personally owned home	61.3
Other	2.4
Did not save	15.7

Source Question 2

Respondents' answers to questions about the rights of employees to withdraw contributions from pension plans, whether contributory or non-contributory, and also about plans that would require both employee and employer to leave all or part of their contributions in the pension funds when the employee left the company before the age of retirement are shown in Tables 51 and 52.

Table 51
Retirees' Attitudes towards Leaving Contributions in Pension Plan

Number of respondents	165
	(Per cent)
Contributions should be left in plan	
Yes	51.1
No	43.2
Did not know/No answer	5.7

Source Questions 5a-d.

Table 52
Proportion of Contributions that Should Be Left in Pension Plan

Number of respondents	84
	(Per cent)
Proportion of contributions that should be left	
25 per cent	13.0
50 per cent	15.4
75 per cent	3.6
100 per cent	64.5
Average that should be left	40.4

Source Questions 5a-d.

Half of the retired believed that some portion of an employee's pension contributions should be left in the plan and, on average, 40.4 per cent was the amount that respondents believed should be left.

When asked if this condition should apply no matter at what age the employee left the company, 68 per cent of respondents replied that age should not be a criterion; 21.3 per cent thought that age should be considered and thought the average age should be 63.8 years, a figure that is much higher than the average of 45.1 years given by the total sample. Respondents were also asked if employees should be required to leave a portion of their contributions in the plan no matter how long they had worked for the company. Retired people stated the employee should have worked for the company for at least 11.1 years. The same questions were asked about employers' contributions to a pension plan on behalf of the employee (Table 53). Respondents on the whole felt that a portion of the employer's contributions should be left in the plan, no matter how old or long-service the employee.

Table 53
Retirees' Criteria for Employers Leaving Contributions in Company Plan

Number of respondents	165
	(Per cent)
Employer should leave contribution in plan	
Yes	59.6
No	35.0
Average that should be left in plan	80.3
Age should be a criterion	
No	70.5
Yes	18.3
Average age when employee leaves company at which condition should apply	44.3 years
Length of service should be a criterion	
No	62.4
Yes	26.4
Average number of years employee should have worked for company	9.3

Source Questions 6a-d.

In answer to the next question - whether the employee should have the right to withdraw contributions made by the employer when the employee had not contributed to the plan - 37.8 per cent of the respondents said that the employee should be allowed to withdraw at least 78.5 per cent of the contribution, 80.8 per cent of those who felt they should be allowed to withdraw felt this condition should apply no matter

at what age the employee left the company. Those who felt age should be a criterion said the employee should be at least 47 years of age; 69.6 per cent of respondents thought this condition should apply no matter how long the employee had worked for the company, but 19.2 per cent believed that length of service should be a criterion and that the employee should have worked for the company at least 2.5 years (Questions 7a-d).

Retired people, when asked what they thought the current maximum CPP payment to a single person per month was, displayed more knowledge than the average respondent in the sample: 40.5 per cent correctly identified that range as being between $100 to $199 per month; and 27.4 per cent incorrectly estimated the amount (Questions 8a,b). They were asked if they thought that the actual benefit of $194.44 was too high, about right, or too low. Surprisingly, 41.8 per cent of the retired thought this payment was about right; 43.8 per cent thought it was too low; and 1.8 per cent thought it was too high.

The next question asked these retired people if their needs for income for their own consumption had increased, decreased, or remained the same since they retired (Table 54).

Table 54
Post-Retirement Income Needs

Number of respondents	165
	(Per cent)
Income needs	
Increased	62.8
Decreased	6.1
Remained the same	30.5
Did not know/No answer	.6

Source Question 8c.

Those who replied that their income needs had increased or decreased were asked what was the major factor that caused their needs to change (Question 8d). Those who stated their income needs had decreased gave "clothing needs are less" (60 per cent), "car expenses are less" (10 per cent), and the remaining 30 per cent either did not know exactly why or did not state. Those who stated their income needs had increased gave "inflation and the cost of living" as the major factor (97.1 per cent). Respondents who stated that inflation or the rise in cost of living had affected their standard of living claimed that they "now had to scrimp on everything" (35.6 per cent), "food cost more" (24.3 per cent), and it was "difficult to maintain pre-retirement standards" (22.3 per cent) as the major ways in which their way of life had been affected (Question 8c).

On the average, 94 respondents stated they were receiving 68.4 per cent of their pre-retirement income (Question 8f). Most of those who

were receiving over half of their pre-retirement income were male, and 59.2 per cent of the retired respondents would have been prepared to pay higher contributions to the CPP in order to receive higher benefits at age 65 (Question 8g).

The next questions explored various aspects of CPP and OAS programs. The first question asked respondents if they believed a person who elected to retire early (prior to age 65) should receive benefits immediately upon retirement or at age 65. Respondents were also asked if the pensions were paid upon retirement whether the amount should be equal to that paid a person 65 years of age or less (Table 55).

Table 55
Retirees' Attitudes towards Payment of OAS and CPP to Those Who Retire Early

Number of respondents	165
	(Per cent)
Paid immediately	54.0
Withheld until age 65	37.5
Amount equal to age 65 retirement	36.2
Amount less than to an age 65 retirement	51.0

Source Question 9a, b.

At present, workers who continue to work after the age of 65 receive CPP benefits while still at work; 63.8 per cent of retired respondents agreed that this was appropriate, while 27.8 per cent disagreed (Question 10). As did other respondents, the retired believed that benefits should be paid immediately upon retirement but that they should be lower than those paid to a person who retired at age 65.

Table 56
Retirees' Attitudes towards Dropout Provision in CPP Calculations

Number of respondents	165
	(Per cent)
Child-raising years should be dropped	
Disagreed strongly	16.9
Disagreed somewhat	15.7
Agreed somewhat	32.3
Agreed strongly	29.0
Did not know/No answer	6.1
Weighted average based on a range of 0-100	+59.4

Source Question 11.

The next question proposed that workers who left the labour force to raise children up to the age of 7 years should be allowed to drop these child-raising years from pension calculations in order not to decrease eventual pension benefits (Table 56).

To the next proposition - "Do you agree or disagree with the proposal that homemakers should be able to contribute to the CPP?" - 63.5 per cent of respondents agreed with this proposal, while 21.5 per cent disagreed (Question 12). Respondents were also asked if they agreed or disagreed with the proposal that adults who are not in the labour force should be able to contribute to the CPP; 61.7 per cent agreed, and 23.5 per cent disagreed (Question 13).

Two alternate methods of funding the CPP were then explained to respondents: cross-generation funding, where the workers of today pay for the benefits received by those retired; and generation self-funding where each generation fully pays for their own benefits in retirement. Respondents were asked which of the two methods they would have preferred (Table 57). Those who preferred generation self-funding were asked if they would have been willing to increase their CPP contributions in order to pay fully for their retirement pension from this plan (Question 14b); 84.3 per cent of the 70 respondents who preferred generation self-funding said they would have been willing to contribute more.

Table 57
Retirees' Preferences for Funding Methods

Number of respondents	165
	(Per cent)
Cross-generation funding	32.6
Generation self-funding	50.2
Did not know/No answer	17.2

Source Question 14a.

At this point in the questionnaire, respondents were asked if they thought they should have retired earlier, later, or at the age they did. Then they were asked at what age they now thought they should have retired and were asked to give reasons for their decisions (Table 58); 56.2 per cent said they were satisfied that retiring when they did was the right decision, 16.9 per cent said they should have retired earlier, and 19 per cent said later. Respondents who said they planned to retire at a specific age did not change their minds to a significant degree: 26 per cent stated that they did retire prior to age 60, while 39 per cent thought they should have retired prior to that age. In the 61-64 age group, more people retired (31 per cent) than stated they should have retired in this group (9 per cent). Fewer people retired at age 65 (27 per cent) than stated they should have (43 per cent). From these responses, we might conclude that a considerable group of retired respondents now think they should have continued working until age 65 in order to maximize benefits.

The respondents' reasons for retiring or continuing to work centred mainly around their health and financial position. While a few (4.2 per cent) found the working responsibility becoming too onerous, a large percentage (16.9 per cent) thought people should work as long as they

enjoyed good health and were able to cope with the job, as their financial position would be much better. Those who thought they should have retired earlier felt they would have enjoyed their retirement more (5.1 per cent) and would have had better health in retirement (3.0 per cent).

Table 58
Retirees' Evaluation of Their Decision to Retire, by Age Group(a)

	Planned to retire	Should have retired
Number of respondents	155	113
	(Per cent)	
Age group		
Under 50	3	3
51 - 55	8	16
56 - 60	15	20
61 - 64	31	9
65	27	43
66 - 70	8	8
71 and over	2	8
Did not plan to retire	6	-

a Those who did not state actual retirement age or did not state at which age they should have retired have been removed from sample.

Source Questions 15 a-e.

Respondents were asked what factors would have affected their choice of retirement age if the choice to retire at a particular time had been entirely up to them (Table 59). Again, health and financial position were the most important factors in choosing to retire.

Table 59
Factors that Would Have Influenced Retirees' Decision to Retire

Number of respondents	165
	(Per cent)
State of health	80.0
Financial position	66.8
Level of other activities	16.3
Marital status	18.4
Responsibility to dependents	25.0
Job interest/Involvement	24.8

Source Question 15f.

Later on in the questionnaire, these respondents were given a list of factors that might be of concern to them in retirement and asked to rate their degree of concern for each mentioned, ranging from very concerned to not at all concerned (Table 60). The ability to remain in their own home and their own personal health were sources of great concern, as was death or illness of spouse.

Table 60
Factors of Concern to Retirees

	Degree of concern			
	Very	Fairly	Not too	Not at all
Number of respondents			165	
			(Per cent)	
Ability to remain in own home	58.6	15.7	10.6	4.2
Health	47.5	25.6	13.0	3.0
Remaining independent	50.2	19.6	13.2	5.4
Death of family members/Friends	39.6	28.6	15.4	4.8
Remaining active/Not bored	49.3	18.4	13.3	6.7
Financial position	44.5	21.1	16.3	7.3
Remaining in contact with children	45.4	18.4	10.2	13.3
Death/Illness of spouse	50.5	12.0	8.1	11.8
Loneliness	22.1	18.2	32.9	15.4

Source Questions 20e

Respondents were queried in some detail about existing or proposed legislation concerning the right to work and their perceptions of minimum incomes needed for retired persons. They were informed that current Human Rights legislation in Ontario protects workers from dismissal for reasons of age between the ages of 40 and 65 and asked if they believed that the existing Human Rights Code should be amended to protect the rights of workers over the age of 65 and if so, if a new upper age limit should be set (Question 16). Responses indicated that 53.2 per cent of retired respondents thought the Code should be amended and, of these, 82.9 per cent thought there should be no new upper age limit; 15 people who thought there should be a new upper limit specified an average age of 68.7 years.

Without telling respondents the currently available government benefits package for people over the age of 65 with no other income, the question was asked: "By today's standards, what do you feel is the minimum monthly income that would be adequate for 1 person over the age of 65, living alone, and a couple in the same circumstances?" (Question 17a). The retired responded that an average of $536 per month would be adequate for a single person and an average of $798 per month adequate for a couple. These estimates were slightly higher than the averages set by the total sample.

Respondents were then informed of the actual maximum benefits available - $310.75 to a single person, $621.50 to a couple monthly - and asked if they thought these programs should pay more and, if so, how much more (Questions 17b, c). Of those who responded, 60.1 per cent thought the programs should be increased and by an average of $237 to a single person and $249 to a couple per month. Again, these were marginally above the estimations of the total sample. In addition, 72.5 per cent of respondents thought that government assistance to persons over

the age of 65 should be increased, and that this increase should be in the form of more money (63 per cent) (Questions 18b, c).

Agreement or disagreement was solicited for the proposal that an income from government and employer pensions should not only provide for a person's current needs but allow for an accumulation of assets to pass on to the next generation. Only 19.3 per cent of retired respondents agreed that government pensions should provide for savings, and only 26.6 per cent agreed that employer pensions should allow for this capability (Question 18a).

The principle of indexing pensions was explained to the respondents as was the fact that indexing would increase the cost of maintaining these pension funds to provide for increases in the cost of living. Respondents were then asked, for specific pensions, what form of indexing should be provided and how should the increased costs be met (Table 61). It was obvious that respondents were in favour of total indexing for the CPP, OAS, and to a lesser extent civil servant and employer pensions. However, federal and provincial politicians' pensions would not be indexed by the majority of respondents; at least one-quarter of the retired respondents did not want the politicians to have any pension increases tied to the cost of living.

The next question concerned membership in employer pensions and the information received or desired about them (Table 62). The 21.3 per cent of respondents who wished to receive more information about their company pension represented 17 retired people out of the 165 in the sample. This low level of interest could be a result of general lack of interest on the part of the respondents about how pensions are administered or the low percentage of now retireds who receive a pension; the information available might also be adequate for their purposes. The segment that wished to receive more pension information is 15 per cent lower than that in the total sample.

Demographic Characteristics

On average, retired respondents were 68.4 years of age; 60 per cent were male and 40 per cent female; 66.5 per cent were now married, 5.4 per cent had never married, and 26.8 per cent were widowed; and 61.3 per cent lived in single wage-earner homes, with 24.8 per cent in two wage-earner homes. Of our retired sample, 85.2 per cent lived in a single family home, 87.9 per cent stated that they owned or were purchasing their home, and 10.3 per cent lived in rented accommodation; 78.8 per cent of the retired stated their highest level of schooling as secondary or less, and 8.4 per cent had a university education. Average total family income annually was $10,274.

The majority of the retirees in the sample were in clerical, skilled labour, or unskilled labour groups (64.1 per cent), and 19.3 per cent of the survey sample were in professional or managerial occupa-

tions; 20.9 per cent worked in manufacturing and 13.7 per cent in community, business, or personal services; 21 per cent worked for the public service, including the armed forces.

Table 61
Retirees' Attitudes towards Total and Partial Indexing of Specific Pensions

	CPP	O&S	Federal MPs	Provincial MPPs	Civil servants	Employers' plans
Number of respondents				165		
				(Per cent)		
Pensions should be totally indexed and paid through general taxation	55	58	18	18	31	34
Pensions should be totally indexed and paid through increased contributions	11	9	5	5	12	16
Pensions should be totally indexed but did not know how to fund	7	10	7	5	8	7
Pensions should be totally indexed but not funded by either taxation or contributions	8	7	7	8	5	7
Total in favour of fully indexed pensions	81	84	37	36	56	64
Pensions should be partially indexed	1	2	10	10	8	5
Pensions should have a percentage increase provided	1	1	-	-	-	-
Did not know if any form of indexing or increase should be provided	13	11	26	28	21	23
Did not want any form of indexing or percentage increase	3	2	26	26	15	8

Source Questions 19a - e.

SUMMARY

One of the key findings of this research is that female Ontario residents exhibit different working patterns and job histories than do males, primarily because of their need to leave the labour force for a

period of time (or times) in order to raise children or fulfil other homemaking or family responsibilities. This results in an interrupted history, reducing the ability of women to accumulate pension benefits with any one employer and gain enough experience to enable them to merit higher salaries or transfer to occupations that require specific skills. A significant number of jobs available to women have been in occupations or industries that only rarely offer pension plans. In addition, those women who do not leave the labour force tend to be unemployed for longer periods of time than men. This could be a result of interrupted careers or the fact that they are members of two wage-earner families and face less economic pressure to find work than their male counterparts. Other findings also reinforce the dependency of women on their spouses to provide - either directly or indirectly - post-retirement income.

Table 62
Retirees' Membership in Employer Plans and Information Received or Desired

Number of respondents	165
	(Per cent)
Belonged to pension plan	48.0
Did not belong to pension plan	51.4
Did not know/No answer	.6
Received information on amount of pension	74.2
Received information on how pension funds were invested	39.6
Wished to receive more information about pensions	21.3
Did not wish to receive more information about pension	69.9
Wished to know exact amount of pension	40.8
When/at what age amount to be paid	-
All/any information regarding pension	26.3
Interest paid on contributions	11.8
Yearly statement of amount	17.8
How/where pension funds invested	23.7
How benefits are calculated	5.9

Source Questions 20a - d.

Among both males and females in the sample, 91 per cent of the respondents have held at least one job. On average, respondents entered the labour force at age 20 and during their employment history held an average of 3.23 jobs. There appeared to be an acceleration in job mobility from generation to generation, as the younger segment of the sample the 18 to 34 age group have already held the same number of jobs as the total sample, including all those who are still working. From a post-employment income planning point of view, this increased job mobility poses real problems, as many current pension policies demand age and tenure conditions for eligibility, and tenure determines "locking-in" of employee and employer pension contributions.

Where company pension plans were offered, 94 per cent of those employees eligible to join the plan did so, indicating their desire to accumulate pension benefits. In view of this, it is interesting to note that 54 per cent of current or most recent employers offered a pension plan, compared with 26 per cent of all previous employers.

Two interpretations of this phenomenon are possible: either more employers have put pension plans in place in recent years; or as workers gain on-the-job experience there is a tendency for them to work for employers who offer pension plans.

Our research showed that 910 respondents who had ever worked did so for a total of 2,800 employers. Of these 2,800 employers, 15.4 per cent or 431 were expected to provide a pension to the respondent. Of these, 70 per cent of the pensions were to be provided by the current or most-recent employer. This points out, dramatically, the inability of employees to accumulate pension benefits from employer to employer.

It was apparent from the analysis that, on the whole, the purpose, administration, and funding of government retirement assistance is not clearly understood. This was particularly true in relation to knowledge of programs and benefits and eligibility either to contribute or to receive current benefits.

In general, respondents thought that government and employer pensions should be indexed fully to the cost of living and were willing to pay their fair share of such indexing. This willingness to "pay their own way" was expressed by respondents throughout the study, as was evidenced by the positive attitude towards generation self-funding of CPP benefits. This responsible attitude extended to those not now in the labour force, with the majority of respondents agreeing that homemakers and other adults not in the labour force should be able to contribute to the CPP and that those who drop out of the labour force to raise children should not be penalized.

Respondents, on average, felt that current government monetary assistance to those age 65 and over was not adequate. Their own estimates of adequate monthly incomes were considerably higher than government payments in October 1978. This attitude also held for general government assistance to the elderly. Most believed it should be increased in the form of more monetary assistance.

There appeared to be a real effort on the part of respondents to accumulate assets to be used in retirement, notably a house and direct savings, but this effort was controlled directly by the amount of income received during working years. From the survey, it was apparent that higher income earners were more likely to receive a pension, to be able to invest, and to be independent in retirement.

On average, retired respondents were receiving two-thirds of their pre-retirement income, and the majority (62 per cent) indicated that their monetary requirements have increased in retirement because of inflation.

In general, respondents thought that choice of retirement age should be personal, not legislated, and should depend on the individual's health, financial position, and desire to remain in the labour force.

Retired respondents placed their ability to remain in their own home above all other considerations, including health and financial position. Perhaps the current tendency towards communal senior citizens' homes should be re-examined in view of the increase expected in this segment of the population in the future.

NOTES

(1) Statistics Canada, The Labour Force, Cat. 71-110, October 1978.

(2) Ibid.

Appendix A
Survey Questionnaire

RESPONDENT NAME: _____

RESPONDENT ADDRESS: _____

TELEPHONE NO.: _____

CITY/TOWN: _____

INTERVIEWER NAME: _____

DATE OF INTERVIEW: _____

INTRODUCTION: Hello, I'm _____ of Complan Research Associates. We are conducting a province wide study on retirement income planning. This is a most interesting project and we would like to have your opinions.

(SELECT RESPONDENT USING GRID. RE-INTRODUCE IF NECESSARY AND CONTINUE)

GRID # USED _____ 5-1

1.a) Are you currently working?

YES ( ) 6-1 ASK Q.1b) 6-

NO ( ) -2 SKIP TO Q.1g)

ASK EVERYONE CURRENTLY WORKING

b) At present, are you ..... (READ LIST - CHECK ONE ONLY)

Self-employed?	( ) 7-1	7-
Employed by another person, company or organization?	( ) -2	
Employed by Government (Federal, Provincial or Municipal)?	( ) -3	
Other (SPECIFY) _____		

c) On the average, during the past year, how many hours did you usually work each week? (READ LIST AND CHECK ONE APPROPRIATE BOX)

1 - 9 hours	( )8-1	8-
10 - 29 hours	( ) -2 ——ASK Q.1d)	
30 hours or more	( ) -3——SKIP TO Q.1e)	

d) ASK THOSE WHO WORK LESS THAN 30 HOURS A WEEK

Why do you work less than 30 hours per week? (PROBE FULLY) (RECORD VERBATIM)

_____ 9-

_____ 10-

_____ 11-

_____

e) Do you personally contribute to the Canada Pension Plan?

YES	( ) 12-1	GO TO Q.2
NO	( ) -2	GO TO Q.1f)
Don't know	( ) -3	GO TO Q.2

f) ASK THOSE WHO DO NOT CONTRIBUTE TO THE CANADA PENSION

Why don't you contribute to the Canada Pension Plan? (RECORD VERBATIM)

_____ 13-

_____ 14-

_____ 15-

_____

1.g) ASK ONLY OF THOSE WHO ARE CURRENTLY NOT WORKING

For the purposes of this study, we have developed a definition of a retired person. (HAND RESPONDENT CARD A - DO NOT PROCEED UNTIL YOU ARE SURE THAT THE RESPONDENT UNDERSTANDS THE DEFINITION)

Why are you not working? Is it... (READ LIST)

Because currently unemployed? (That is, out of work but actively looking for work)	( )16-1	16-
Because temporarily laid off or on strike?	( ) -2	
Because of illness or vacation (but have a job)?	( ) -3	
Because retired?	( ) -4	
Because a full-time student?	( ) -5	
Because a homemaker?	( ) -6	
Other (SPECIFY) _____	( ) -7	

h) IF RETIRED, ASK:

How long have you been retired? (RECORD) _____ 17-18-

j) IF UNEMPLOYED, ASK:

How long have you been unemployed? (RECORD) _____ 19-20-

ASK EVERYONE:

2.a) What sources of retirement income do/did you expect to have when you retire(d)? (READ LIST - CHECK ALL ANSWERS GIVEN)

(ASK FOR EACH SOURCE OF INCOME MENTIONED - HAND RESPONDENT CARD 2)

b) Will this income be/Was this income...

A result of your own financial contributions? OR

c) Your spouse's/other financial contributions? OR

d) Both your own and your spouse's/other contributions?

	Q.2a) Expected income Yes	Income No	Not sure Don't know	Q.2b) Own contribution	Q.2c) Spouse's contribution	Q.2d) Both	
(1) Canada Pension Plan	( )21-1	( )-2	( )-3	( )-4	( )-5	( )-6	21-
(2) Old Age Security	( )22-1	( )-2	( )-3	( )-4	( )-5	( )-6	22-
(3) Company/employer pensions (including Government as an employer)	( )23-1	( )-2	( )-3	( )-4	( )-5	( )-6	23-
(4) Government annuities	( )24-1	( )-2	( )-3	( )-4	( )-5	( )-6	24-
(5) Veteran's Allowances	( )25-1	( )-2	( )-3	( )-4	( )-5	( )-6	25-
(6) Armed forces pensions	( )26-1	( )-2	( )-3	( )-4	( )-5	( )-6	26-
(7) Union pensions	( )27-1	( )-2	( )-3	( )-4	( )-5	( )-6	27-
(8) Insurance company annuities	( )28-1	( )-2	( )-3	( )-4	( )-5	( )-6	28-
(9) Registered retirement savings plans	( )29-1	( )-2	( )-3	( )-4	( )-5	( )-6	29-
(10) Credit union annuities	( )30-1	( )-2	( )-3	( )-4	( )-5	( )-6	30-
(11) Federal old age income supplements (G.I.S., spousal allowances)	( )31-1	( )-2	( )-3	( )-4	( )-5	( )-6	31-
(12) Provincial old age income supplement (Gains)	( )32-1	( )-2	( )-3	( )-4	( )-5	( )-6	32-
(13) Savings	( )33-1	( )-2	( )-3	( )-4	( )-5	( )-6	33-
(14) Investment income (incl. stocks, bonds, mortgages, real estate/other than own home, insurance policies, etc.)	( )34-1	( )-2	( )-3	( )-4	( )-5	( )-6	34-
(15) Post retirement employment (incl. income from hobbies)	( )35-1	( )-2	( )-3	( )-4	( )-5	( )-6	35-
(16) Inheritance	( )36-1	( )-2	( )-3	( )-4	( )-5	( )-6	36-
(17) Welfare	( )37-1	( )-2	( )-3	( )-4	( )-5	( )-6	37-
(18) Personally owned home	( )38-1	( )-2	( )-3	( )-4	( )-5	( )-6	38-
(19) Workmen's Compensation	( )39-1	( )-2	( )-3	( )-4	( )-5	( )-6	39-
Other (SPECIFY)	( )40-1	( )-2	( )-3	( )-4	( )-5	( )-6	40-

2.e) Thinking of Registered Retirement Savings Plans (RRSP) ...
Do you have such a plan now?

YES	( )41-1	—SKIP TO Q.2g)	41-
NO	( )-2	— ASK Q.2f)	
Don't know	( )-3		

f) Have you ever had an RRSP?

YES	( )42-1	— GO TO Q.2g)	42-
NO	( )-2	— SKIP TO Q.2j)	
Don't know	( )-3		

g) How many? (CIRCLE ANSWER) 1 2 3 4 5 or more 43-

h) FOR EACH RRSP, ASK:

Will you be using it for retirement purposes OR for something else?
All or part of it? (RECORD BELOW)

	Retirement		Other		
	All	Part	All	Part	
RRSP #1	( )44-1	( )-2	( )-3	( )-4	44-
RRSP #2	( )45-1	( )-2	( )-3	( )-4	45-
RRSP #3	( )46-1	( )-2	( )-3	( )-4	46-
RRSP #4	( )47-1	( )-2	( )-3	( )-4	47-
RRSP #5	( )48-1	( )-2	( )-3	( )-4	48-

i) Do you have .... (READ LIST)

	YES	NO	Don't know	
An employer pension plan in addition to an RRSP	( )49-1	( )-2	( )-3	49-
Deferred profit-sharing plan in addition to an RRSP	( )50-1	( )-2	( )-3	50-
A Registered Retirement Investment Fund	( )51-1	( )-2	( )-3	51-

ASK ALL RESPONDENTS

j) Other than contributions you may be making(have made) to the Canada Pension Plan or an employer's pension plan, in which of the following ways are you saving(did you save) for retirement? (READ LIST - RECORD ALL ANSWERS GIVEN)

Government annuities	( )52-1	— GO TO Q.3	52-
Union pensions	( ) -2		
Insurance company annuities	( ) -3		
Registered Retirement Savings Plan	( ) -4		
Credit Union annuities	( ) -5		
Savings	( ) -6		
Investments (incl. stocks, bonds, mortgages, etc.)	( ) -7		
Personally-owned house	( ) -8		
Other (SPECIFY) _____	( ) -9		
Not saving(did not save) for retirement	( ) -0	— ASK Q.2k)	

k) You stated you are not putting(did not put) monies aside for retirement, could you tell me why? (RECORD BELOW)

No money available to put into savings	( )53-1	53-
Never thought about retirement	( ) -2	
Economic conditions are(were) not the best for investments	( ) -3	
Employment has(had) not been continuous or stable	( ) -4	
Too many other priorities	( ) -5	
Other (SPECIFY) _____	( ) -6	

_____

3.a) Since the age of 18, (excluding any summer or other part-time employment you may have had as a student), did you ...

Ever work for yourself or another company, organization or government either full or part-time?

YES ( )54-1———ASK Q.3b) NO ( )-2 — SKIP TO Q.5 Don't know ( )-3 54-

b) How old were you when you first entered the work force after leaving school? 55-56-

RECORD _____

c) Now take respondent through their entire work history, beginning with their FIRST employer since leaving school. Include self employment as an employer. (RECORD ANSWERS ON CHART BELOW)

Thinking back to your first employer since leaving school, can you tell me how long you stayed there?

d) How much time was there between your first employer and employer #2?

IF MORE THAN 1 MONTH IN Q.3d), ASK:

e) What were your reasons for not working during this period? (READ LIST)

(REPEAT Q.3c), d) and e) FOR EVERY EMPLOYER)

	c)	d) TIME BETWEEN EMPLOYERS		e) BETWEEN EMPLOYER HISTORY						
Employer # (First)	Duration in years	None (1 mth or less)	OR # month	Lay-off/ strike	Maternity/ Home-maker	Vacation/ leave of absence	Lengthy illness	Back to school	Retired	Other (Specify)
1	( ) (57,58)	( )	(59,60)	( )61-1	( )-2	-3	( )-4	( )-5	( )-6	_____( )7
2	( ) (62,63)	( )	(64,65)	( )66-1	( )-2	( )-3	( )-4	( )-5	( )-6	_____( )7
3	( ) (67,68)	( )	(69,70)	( )71-1	( )-2	( )-3	( )-4	( )-5	( )-6	_____( )7
4	( ) (72,73)	( )	(74,75)	( )76-1	( )-2	( )-3	( )-4	( )-5	( )-6	_____( )7
5	( ) (6,7)CARD 2	( )	(8,9)	( )10-1	( )-2	( )-3	( )-4	( )-5	( )-6	_____( )7
6	( ) (11,12)	( )	(13,14)	( )15-1	( )-2	( )-3	( )-4	( )-5	( )-6	_____( )7
7	( ) (16,17)	( )	(18,19)	( )20-1	( )-2	( )-3	( )-4	( )-5	( )-6	_____( )7
8	( ) (21,22)	( )	(23,24)	( )25-1	( )-2	( )-3	( )-4	( )-5	( )-6	_____( )7
9	( ) (26,27)	( )	(28,29)	( )30-1	( )-2	( )-3	( )-4	( )-5	( )-6	_____( )7
10	( ) (31,32)	( )	(33,34)	( )35-1	( )-2	( )-3	( )-4	( )-5	( )-6	_____( )7
11	( ) (36,37)	( )	(38,39)	( )40-1	( )-2	( )-3	( )-4	( )-5	( )-6	_____( )7
12	( ) (41,42)	( )	(43,44)	( )45-1	( )-2	( )-3	( )-4	( )-5	( )-6	_____( )7
13	( ) (46,47)	( )	(48,49)	( )50-1	( )-2	( )-3	( )-4	( )-5	( )-6	_____( )7
14	( ) (51,52)	( )	(53,54)	( )55-1	( )-2	( )-3	( )-4	( )-5	( )-6	_____( )7
15	( ) (56,57)	( )	(58,59)	( )60-1	( )-2	( )-3	( )-4	( )-5	( )-6	_____( )7

f) At which of these employers were you when you were 25 years of age? 45 years of age? (IF NOT WORKING AT AGE 25/45 RECORD NEXT EMPLOYER #)

25 years Employer # _____ (61,62) 45 years Employer # _____ (63,64)

g) Have you ever been self-employed? YES ( )6-1 NO ( )-2 SKIP TO Q.4 CARD 3 6-

ASK IF HAD PERIODS OF SELF EMPLOYMENT

h) While you are/were self employed, do/did you contribute to an RRSP?

IF "YES" - for yourself or your spouse?

	YES	NO	Don't know
For yourself	( )7-1	( )-2	( )-3
For spouse/other	( )8-1	( )-2	( )-3

7-
8-

Total# employers (_____) cc 9,10 Q.4a) No.	Q.4b) Self-employed YES	NO	(c) No. of years/ months worked	(d) Worked full/ part time	(e) Has/ had pension plan	(f) Are/ was eligible	(g) Are/ was member	(h) Chose not to join	(i) Contri-buted	(j) With-drew contri-bution	(k) 1) Save	2) Invest	3) Spend	(l) Permitted to with-draw	(m) Do/ will receive pension	(n) 1) Employer gives	2) Upon request	3) No record	4) D.K.	5) Other
Employer #1 (present/ most recent)	11-1 ( )	11-2 ( )	____yrs ____mos 12-	13 Full( )-1 Part( )-2	14 YES( )-1 NO( )-2	15 YES( )-1 NO( )-2	16 YES( )-1 NO( )-2	17 YES( )-1 NO( )-2	18 YES( )-1 NO( )-2	19 YES( )-1 NO( )-2 not left ( )-3	20 ( )-1	( )-2	( )-3	YES( )-1 NO( )-2	22 YES( )-1 NO( )-2	23 ( )-1	( )-2	( )-3	( )-4	( )-5
Employer #2	( )24-1	( )-2	____yrs ____mos 25-	26 Full( )-1 Part( )-2	27 YES( )-1 NO( )-2	28 YES( )-1 NO( )-2	29 YES( )-1 NO( )-2	30 YES( )-1 NO( )-2	31 YES( )-1 NO( )-2	32 YES( )-1 NO( )-2	33 ( )-1	( )-2	( )-3	YES( )-1 NO( )-2	35 YES( )-1 NO( )-2	36 ( )-1	( )-2	( )-3	( )-4	( )-5
Employer #3	( )37-1	( )-2	____yrs ____mos 38-	39 Full( )-1 Part( )-2	40 YES( )-1 NO( )-2	41 YES( )-1 NO( )-2	42 YES( )-1 NO( )-2	43 YES( )-1 NO( )-2	44 YES( )-1 NO( )-2	45 YES( )-1 NO( )-2	46 ( )-1	( )-2	( )-3	YES( )-1 NO( )-2	48 YES( )-1 NO( )-2	49 ( )-1	( )-2	( )-3	( )-4	( )-5
Employer #4	( )50-1	( )-2	____yrs ____mos 51-	52 Full( )-1 Part( )-2	53 YES( )-1 NO( )-2	54 YES( )-1 NO( )-2	55 YES( )-1 NO( )-2	56 YES( )-1 NO( )-2	57 YES( )-1 NO( )-2	58 YES( )-1 NO( )-2	59 ( )-1	( )-2	( )-3	YES( )-1 NO( )-2	61 YES( )-1 NO( )-2	62 ( )-1	( )-2	( )-3	( )-4	( )-5
Employer #5	( )63-1	( )-2	____yrs ____mos 64-	65 Full( )-1 Part( )-2	66 YES( )-1 NO( )-2	67 YES( )-1 NO( )-2	68 YES( )-1 NO( )-2	69 YES( )-1 NO( )-2	70 YES( )-1 NO( )-2	71 YES( )-1 NO( )-2	72 ( )-1	( )-2	( )-3	YES( )-1 NO( )-2	74 YES( )-1 NO( )-2	75 ( )-1	( )-2	( )-3	( )-4	( )-5
Employer #6	( ) 6-1 CARD 4	( )-2	____yrs ____mos 7-	8 Full( )-1 Part( )-2	9 YES( )-1 NO( )-2	10 YES( )-1 NO( )-2	11 YES( )-1 NO( )-2	12 YES( )-1 NO( )-2	13 YES( )-1 NO( )-2	14 YES( )-1 NO( )-2	15 ( )-1	( )-2	( )-3	YES( )-1 NO( )-2	17 YES( )-1 NO( )-2	18 ( )-1	( )-2	( )-3	( )-4	( )-5

(HAND RESPONDENT CARD A - DEFINITION OF A RETIRED PERSON)

ASK ALL

5.a) If a person has been contributing to an employer pension plan and leaves that employer before the age of retirement, in your opinion should they be required to leave any portion of these contributions in the plan so that when they retire they will receive a pension from this employer?

YES	( )19-1 GO TO Q.5(b)	19-
NO	( ) -2 SKIP TO Q.6	

b) How much should they be required to leave in the plan. Would you say 25%, 50%, 75% or 100%?

25%	( )20-1	75%	( )-3	20-
50%	( ) -2	100%	( )-4	

c) Should this condition apply no matter at what age they leave the job?

YES	( )21-1	21-
NO	( ) -2→What age? _____ years of age.	22-
Don't know	( ) -3	23-

d) Should this condition apply no matter how long they have worked for this employer?

YES	( )24-1	24-
NO	( ) -2→How long? _____ years.	25-
Don't know	( ) -3	26-

ASK ALL

6.a) If a person belongs to an employer pension plan and leaves the employer before the age of retirement, should the employer be required to leave any part of these contributions (made by the employer on behalf of the employee) in the pension plan so that when the employee retires they receive a pension from that employer?

YES	( )27-1 GO TO Q.6b)	27-
NO	( ) -2 SKIP TO Q.7	

b) How much should the employer be required to leave in the plan. Would you say 25%, 50%, 75% or 100%?

25%	( ) 28-1	75%	( ) -3	28-
50%	( ) -2	100%	( ) -4	

c) Should this condition apply no matter at what age the employee leaves the employer?

YES	( ) 29-1	29-
NO	( ) -2→What age? _____ years of age.	30-
Don't know	( ) -3	31-

d) Should this condition apply no matter how long the employee has worked for the employer?

YES	( )32-1	32-
NO	( ) -2 → How long? _____ years.	33-
Don't know	( ) -3	34-

7.a) Do you feel that in the case where only the employer has contributed to an employees' pension plan, that the employee should be allowed to withdraw any portion of these contributions from the plan when they leave the employer before the age of retirement?

YES	( )35-1	ASK Q.7b)	35-
NO	( ) -2	SKIP TO Q.8	
Dont' know	( ) -3		

b) Approximately, what percent of an employer's contributions should the employee be allowed to withdraw? Would you say 25%, 50%, 75% or 100%?

25%	( )36-1	75%	( )-3		36-
50%	( ) -2	100%	( )-4	Other ____% ( )	

c) Should this condition apply no matter at what age the employee leaves the employer?

YES	( )37-1	37-
NO	( ) -2→ What age? _____ years of age.	38-
Don't know	( ) -3	39-

d) Should this condition apply no matter how long the employee has worked for the employer?

YES	( )40-1	40-
NO	( ) -2→ How long? _____ years.	41-
Don't know	( ) -3	42-

8.a) Tell me what you think is the current maximum monthly payment paid to one person (retiring this year) by the Canada Pension Plan. (DO NOT READ LIST - CHECK APPROPRIATE BOX)

More than $300.	( )43-1	43-
$200 - $299	( ) -2	
$100 - $199	( ) -3	
Less than $100	( ) -4	
Don't know	( ) -5	

b) In fact, at the present time an individual aged 65, who has contributed the maximum amount to the Canada Pension Plan - receives $194.44 monthly. Do you think this benefit payment is ....

Too high	( )44-1	44-
About right	( ) -2	
Too low	( ) -3	
Don't know	( ) -4	

ASK Q.8c, 8d, 8e and 8f FOR RETIRED PERSONS

c) Since you retired, have your needs for income for your own consumption.....

Increased	( )45-1	ASK Q.8d)	45-
Decreased	( ) -2		
Remained the same	( ) -3	SKIP TO Q.8f)	

d) What do you feel is the major factor that has caused your income needs to decrease/increase? (PROBE FULLY)

_____ 46-
47-

_____ 48-
49-

IF INFLATION/RISE IN COST OF LIVING MENTIONED IN Q.8d), ASK:

8.e) In what way has inflation/rise in cost of living affected your standard of living? (PROBE FULLY)

_____ 50-

_____ 51-

_____

f) Can you tell me approximately what percent of your pre-retirement income you are receiving now?

_____ % 52-53-

ASK ALL

g) Are you prepared(would you have been prepared) to pay higher contributions to the Canada Pension Plan in order to receive higher benefits at age 65?

YES ( ) 54-1
NO ( ) -2
Don't know ( ) -3

9. At the present time, in order to receive retirement benefits under the Canada Pension Plan, and the Old Age Security, a person must have reached age 65. If an individual elects to retire (as per Card A) before age 65, should the benefits from the Canada Pension and Old Age Security .....
(ASK BOTH a) and b))

a) Be withheld until age 65? ( ) 55-1 55-

OR Be paid immediately upon retirement? ( ) -2

b) Pay an equal amount to the person who retires at age 65? ( ) -3

OR Pay an amount less than to a person who retires at age 65? ( ) -4

10. A person who continues to work after the age of 65 is able to collect Canada Pension Plan benefits while still at work. Do you agree or disagree with this?

Agree ( ) 56-1 Disagree ( ) -2 Don't know ( ) -3 56-

11. At present, each contributor to the Canada Pension Plan may drop up to 15% of their low-earning years from total years worked, for calculation of the retirement pension. It has been proposed, that, in addition, people who drop out of the work force to raise their children up to the age of 7 should be allowed to also drop these child-raising years from the pension calculation in order that their eventual pension will not be decreased. Do you disagree strongly, disagree somewhat, agree somewhat, or agree strongly with this proposal?

Disagree strongly ( ) 57-1 Agree somewhat ( ) -3 57-
Disagree somewhat ( ) -2 Agree strongly ( ) -4

12. It has been suggested that housewives should be able to contribute to the Canada Pension Plan. Do you agree or disagree with this proposal?

Agree ( ) 58-1 Disagree ( ) -2 Don't know ( ) -3 58-

13. It has been suggested that adults who are not in the labour force should still be allowed to contribute to the Canada Pension Plan. Do you agree or disagree with this proposal?

Agree ( ) 59-1 Disagree ( ) -2 Don't know ( ) -3 59-

(HAND RESPONDENT CARD 14)

14.a) Here is a card which lists the present administration of the plan and an alternative method. (READ TO RESPONDENT, MAKING SURE THEY UNDERSTAND AND ASK)

Which of these methods do you prefer/would you have preferred?

(a) Cross-generation funding	( )60-1	SKIP TO Q.15a)
(b) Generation self-funding	( ) -2	GO TO Q.14b)
Don't know	( ) -3	

60-

b) Would you have been willing to increase your Canada Pension Plan contribution in order to fully pay for your own Canada Pension Plan retirement pension?

YES ( )61-1 NO ( )-2 Don't know ( )-3

61-

(NOW, WOULD YOU PLEASE REFER TO CARD A)

15.a) Based on the definition on the card, at what age do you plan to (did you) retire?

Do not/did not plan to retire	( )62-1	SKIP TO Q.16a)
Under 50 years of age	( ) -2	
51 - 55 years of age	( ) -3	
56 - 60 years of age	( ) -4	
61 - 65 years of age	( ) -5	
65 years of age	( ) -6	
66 - 70 years of age	( ) -7	
71 years of age and over	( ) -8	
Don't know	( ) -9	
Other (SPECIFY) _____	( ) -0	

62-

IF RETIRED, ASK Q.15b) - IF NOT, SKIP TO Q.15f)

b) At this time, do you feel you should have retired .....

Earlier	( )63-1	
Later	( ) -2	ASK Q.15c)
At the same age	( ) -3	

63-

c) Why do you say this?

_____ 64-
65-
_____ 66-
67-
_____

d) At what age do you now think you should have retired?

_____ 68-
69-

e) Why do you say this?

_____ 70-
71-
_____ 72-
73-
_____

ASK ALL

15.f) If your decision to retire at a particular age was entirely your own choice (that is, unaffected by company policy or government legislation) what factors would affect your choice of retirement age? (READ LIST - CHECK ALL APPROPRIATE ANSWERS)

State of your health	( )74-1	74-
Your financial position	( ) -2	
Level of your other activities (hobby, social, etc.)	( ) -3	
Your marital status	( ) -4	
Responsibility to your dependents	( ) -5	
Your job interest/involvement	( ) -6	

CARD 5

16.a) The Human Rights Code protects people against firing or forcible retirement for reasons of age between the ages of 40 - 65, (subject to certain job exceptions such as fire fighting, airline pilot, etc.). Do you believe this code should be amended to provide the same protection to those workers over the age of 65?

YES	( )6-1	ASK Q.16b)
NO	( ) -2	SKIP TO Q.17
Don't know	( ) -3	

6-

b) Should there be a new upper age limit, or should there be no upper age limit?

YES, should be upper age limit	( )7-1	ASK Q.16c)
NO, should be no upper age limit	( ) -2	SKIP TO Q.17

7-

c) What should this age limit be? (WRITE IN BELOW)

_____ years of age

8-
9-

17.a) By today's standards, what do you feel is the minimum total monthly income that would be adequate for .....(WRITE IN BELOW)

One person over 65, living alone	_____
Two people over 65 living together	_____

10-
11-

b) At the present time, government programs (such as Old Age Security, Guaranteed Income Supplement, GAINS) provide to people with no other income the amount of $310.75/month to a single person, 65 years of age or over, and $621.50/month to a couple, 65 years of age or over, PLUS free OHIP premiums and a free drug plan.

Do you think these programs should pay more?

YES	( )12-1	ASK Q.17c)
NO	( )-2	SKIP TO Q.18a)
Don't know	( )-3	

12-

c) How much more per month...

To a single person	$ _____
To a couple	$ _____

13-
14-

18.a) It has been suggested that retirement income from government pensions should not only provide for a person's current needs but allow for an accumulation of assets to pass on to the next generation? Do you agree or disagree with this proposal? How about employer pensions?

	Government pensions	Employer pensions
Agree	( )15-1	( )16-1
Disagree	( ) -2	( ) -2
Don't know	( ) -3	( ) -3

15-
16-

b) Do you think that Government Assistance to the people over 65 years of age should be increased?

YES	( )17-1	ASK Q.18c)
NO	( )-2	SKIP TO Q.19
Don't know	( )-3	

17-

c) Should this assistance be in terms of .....

More money to buy goods and services?	( )18-1
OR	
More subsidized services made available?	( ) -2

18-

19. I'd like you to think about private (employer) pensions and government pensions (Canada Pension and Old Age Security). At present, all government pensions are indexed, as are the pensions for Federal and Provincial members of Parliament. That is, these benefit payments rise to offset increases in the cost of living. Obviously, these increases increase the cost of maintaining these benefits.

a) Do you believe that....

READ LIST	YES		Depends on the cost		NO		Don't know		
the Canada Pension Plan should be indexed?	( )19-1		( )-2		( )-3		( )-4		19-
Old Age Security should be indexed?	( )20-1		( )-2		( )-3		( )-4		20-
Federal MP Pensions should be indexed?	( )21-1		( )-2		( )-3		( )-4		21-
Provincial MP Pensions should be indexed?	( )22-1	(ASK Q.19 b)	( )-2	(ASK Q.19 b)	( )-3	(ASK Q.19 d)	( )-4	(SKIP TO Q.20)	22-
Federal/Provincial Civil Servant's Pensions should be indexed?	( )23-1		( )-2		( )-3		( )-4		23-
Employer Pensions should be indexed?	( )24-1		( )-2		( )-3		( )-4		24-

FOR EACH TYPE OF PENSION IN a) WHERE RESPONDENT STATED SHOULD BE INDEXED OR DEPENDS ON COST, ASK Q.19b)

b) Would you be prepared to pay the additional cost of indexing (type) Pension through general taxation? (That is, all Canadian taxpayers would pay.).

	YES		NO		Don't know		
Canada Pension	( )25-1		( )-2		( )-3		25-
Old Age Security	( )26-1		( )-2		( )-3		26-
Federal MP Pensions	( )27-1	(SKIP TO Q.20)	( )-2	(ASK Q.19 c)	( )-3	(ASK Q.19 c)	27-
Provincial MP Pensions	( )28-1		( )-2		( )-3		28-
Federal/Provincial Civil Servants' Pensions	( )29-1		( )-2		( )-3		29-
Employer Pensions	( )30-1		( )-2		( )-3		30-

FOR EACH TYPE OF PENSION IN b) WHERE RESPONDENT SAID "NO" OR "DON'T KNOW" ASK Q.19c)

c) Would you be prepared to pay the additional cost of indexing (type) Pension through increased contributions? (That is, only those contributing to the plan would pay.).

	YES	NO	Don't know	
Canada Pension	( )31-1	( )-2	( )-3	31-
Old Age Security	( )32-1	( )-2	( )-3	32-
Federal MP Pensions	( )33-1	( )-2	( )-3	33-
Provincial MP Pensions	( )34-1	( )-2	( )-3	34-
Federal/Provincial Civil Servant's Pensions	( )35-1	( )-2	( )-3	35-
Employer Pensions	( )36-1	( )-2	( )-3	36-

REFER TO Q.19a) AND ASK d) FOR EACH PENSION THAT RESPONDENT STATED SHOULD NOT BE INDEXED

19.d) Do you believe that some part of (type) Pension should be indexed? (Up to a specified dollar limit).

	YES		NO		Don't know		
Canada Pension	( )37-1	SKIP TO Q.20	( )-2	ASK Q.19 e)	( )-3	SKIP TO Q.20	37-
Old Age Security	( )38-1		( )-2		( )-3		38-
Federal MP Pensions	( )39-1		( )-2		( )-3		39-
Provincial MP Pensions	( )40-1		( )-2		( )-3		40-
Federal/Provincial Civil Servants' Pensions	( )41-1		( )-2		( )-3		41-
Employer Pensions	( )42-1		( )-2		( )-3		42-

ASK FOR EACH TYPE OF PENSION IN d) WHERE RESPONDENT STATED PART SHOULD NOT BE INDEXED ASK e)

e) Do you believe that some percentage increase should be provide for (type) Pension? (Not necessarily enough to fully offset rises in the cost of living.)

	YES		NO		Don't know		
Canada Pension	( )43-1	ASK Q.20	( )-2	ASK Q.20	( )-3	ASK Q.20	43-
Old Age Security	( )44-1		( )-2		( )-3		44-
Federal MP Pensions	( )45-1		( )-2		( )-3		45-
Provincial MP Pensions	( )46-1		( )-2		( )-3		46-
Federal/Provincial Civil Servants' Pensions	( )47-1		( )-2		( )-3		47-
Employer Pensions	( )48-1		( )-2		( )-3		48-

ASK ALL:

20. Do you/did you belong to an employer pension plan?

YES ( )49-1 ASK Q.20b) NO ( )-2 — SKIP TO Q 20 E 49-

Don't know ( )-3

b) Do you/did you receive information from your employer regarding

	YES	NO	
(a) the amount of pension you would receive?	( )50-1	( )-2	50-
(b) how the pension fund monies were invested?	( )51-1	( )-2	51-

c) Do you wish to (you had) receive(d) more information about your employer's pension?

YES ( )52-1 ASK Q.20d) 52-

NO ( )-2 — SKIP TO PAGE 13

Don't know ( )-3

20.d) What kinds of information do you/did you want regarding your pension? (PROBE FULLY)

_____ 53-

_____ 54-

_____

ASK RETIRED RESPONDENTS ONLY IF NOT RETIRED SKIP Q.21

e) I am going to read you a list of some factors that might be of concern to you in your retirement. For each one I read please tell me if you are very concerned, fairly concerned, not too concerned or not at all concerned? (HAND RESPONDENT CARD B - READ LIST - RECORD)

	Very concerned	Fairly concerned	Not too concerned	Not at all concerned	
Your health	( )55-1	( )-2	( )-3	( )-4	55-
Death of family members of friends	( )56-1	( )-2	( )-3	( )-4	56-
Ability to remain in contact with your children	( )57-1	( )-2	( )-3	( )-4	57-
Loneliness	( )58-1	( )-2	( )-3	( )-4	58-
Ability to remain independent	( )59-1	( )-2	( )-3	( )-4	59-
Death/illness of your spouse	( )60-1	( )-2	( )-3	( )-4	60-
Ability to remain in your own home	( )61-1	( )-2	( )-3	( )-4	61-
Ability to remain active/not be bored	( )62-1	( )-2	( )-3	( )-4	62-
Your financial position	( )63-1	( )-2	( )-3	( )-4	63-

f) Are there any others? _____ 64- 65-

DEMOGRAPHICS

RECORD SEX: MALE ( )6-1 FEMALE ( )-2 6-

THESE QUESTIONS ARE FOR CLASSIFICATION PURPOSES:

21. I am going to read you a list of age categories. Would you please tell me the one which includes your age?

18-24 years of age	( )7-1		7-
25-34	( ) -2	55-64 years of age	( )-5
35-44	( ) -3	65-74	( )-6
45-54	( ) -4	75 and over	( )-7

22. What is your present marital status?

Never married	( )8-1	Divorced	( )-4	8-
Now married	( ) -2	Widowed	( )-5	
Separated	( ) -3	Other (SPECIFY)	( )-6	

23. How many wage earners are there in this household/were there in this household during your working career? (WRITE IN BELOW) 9-10-

_____

24. What kind of work did you do in your most recent job? Can you briefly describe this job?

_____ 11-

_____ 12-

_____

25. Which of these types of industry was this job in? (HAND RESPONDENT CARD 25)

(1) Agriculture	( )	(9) Retail trade	( )
(2) Forestry	( )	(10) Finance, insurance, real estate	( )
(3) Fishing/trapping	( )		
(4) Mines, quarries, oil wells	( )	(11) Community, business and personal services (incl. Doctors, etc.)	( )
(5) Manufacturing industries	( )		
(6) Construction	( )	(12) Federal government (incl. armed forces)	( )
(7) Transportation, communication, other utilities	( )	(13) Ontario government	( )
(8) Wholesale trade	( )	(14) Municipal government	( )
		(15) Self-employed	( )
		(16) Other (SPECIFY)_____	( )

13-
14-

26. Do you now live in.... (READ LIST)

A single-family dwelling	( )15-1	15-
A semi-detached double dwelling	( ) -2	
A duplex	( ) -3	
A townhouse/maisonette multiple dwelling	( ) -4	
A low-rise apt. - (under 5 stories)	( ) -5	
A high-rise apt. (over 5 stories)	( ) -6	
Senior citizens' housing	( ) -7	
Nursing home	( ) -8	
Other (SPECIFY) _____	( ) -9	

27. Is this dwelling .....

Owned, or being purchased	( )16-1	16-
Rented (without a subsidy)	( ) -2	
Rented (with a subsidy)	( ) -3	

28. What is the highest level of schooling you have completed? (READ LIST)

Elementary (public) school	( )17-1	17-
Secondary (high) school	( ) -2	
Post-secondary (other than university)	( ) -3	
University (undergraduate degree)	( ) -4	
University (graduate degree)	( ) -5	

29. I am going to give you a list of income ranges. Would you first tell me your total personal annual income? Just give me the # beside the category.

And second, your total family annual income? Please include income from all sources including investments, pensions, etc.
(READ LIST - CHECK ONE FOR EACH. IF SINGLE-WAGE-EARNER HOUSEHOLD, CHECK TOTAL COLUMN AS FOR PERSONAL)

		Personal	Total family	
(1)	Under $1,000	( )18-1	( )20-1	18-
(2)	$1,000 – $1,999	( ) -2	( ) -2	19-
(3)	$2,000 - $2,999	( ) -3	( ) -3	
(4)	$3,000 - $3,999	( ) -4	( ) -4	
(5)	$4,000 - $4,999	( ) -5	( ) -5	20-
(6)	$5,000 - $5,999	( ) -6	( ) -6	21-
(7)	$6,000 - $6,999	( ) -7	( ) -7	
(8)	$7,000 - $7,999	( ) -8	( ) -8	
(9)	$8,000 - $8,999	( ) -9	( ) -9	
(10)	$9,000 - $9,999	( ) -0	( ) -0	
(11)	$10,000 - $10,999	( )19-1	( )21-1	
(12)	$11,000 - $11,999	( ) -2	( ) -2	
(13)	$12,000 - $12,999	( ) -3	( ) -3	
(14)	$13,000 - $13,999	( ) -4	( ) -4	
(15)	$14,000 - $14,999	( ) -5	( ) -5	
(16)	$15,000 - $19,999	( ) -6	( ) -6	
(17)	$20,000 - $24,999	( ) -7	( ) -7	
(18)	$25,000 - $29,999	( ) -8	( ) -8	
(19)	$30,000 and over	( ) -9	( ) -9	
	Refused	( ) -0	( ) -0	
	Don't know	( ) -+	( ) -+	

22-
23-

30. In what country were you born? _____ 24-

Of what country are you presently a citizen? _____ 25-

→ If not Canada,
How long have you been in this country? _____ 26-

31. What language do you use most frequently?

In the home _____ 27-

At work _____ 28-

THANK YOU FOR YOUR CO-OPERATION!

Appendix B
Cards Accompanying Questionnaire

Card A

For the purposes of this study, a person is considered to be retired if

(a) Less than 50 per cent (or one-half) of their total income is from paid employment and

(b) Pension income other than a disability pension is received.

Card B

Your health
Death of family members or friends
Ability to remain in contact with your children
Loneliness
Ability to remain independent
Death/illness of your spouse
Ability to remain in your own home
Ability to remain active/not be bored
Your financial position

Card 2

A result of your own financial contributions?
Your spouse's/other financial contributions?
Both your own AND your spouse's/other contributions?

Card 14

a) Under the present administration of the Canada Pension Plan today's workers, through their contributions to the plan, pay for the pensions of those workers who have retired. In turn, tomorrow's workers through contributions will pay for the retirement pensions of those presently working.

b) An alternative method of funding would be to increase individual contributions to the Canada Pension Plan so that each generation of workers would fully pay for their own retirement pensions.

Card 25

(1) Agriculture
(2) Forestry
(3) Fishing/trapping
(4) Mines, quarries, oil wells
(5) Manufacturing industries
(6) Construction
(7) Transportation, communication, other utilities
(8) Wholesale trade
(9) Retail trade
(10) Finance, insurance, and real estate
(11) Community, business, and personal services (incl. doctors, etc.)
(12) Federal government (incl. armed forces)
(13) Ontario government
(14) Municipal government
(15) Self-employed

Card 29

(1) Under $1,000
(2) $1,000 - $1,999
(3) $2,000 - $2,999
(4) $3,000 - $3,999
(5) $4,000 - $4,999
(6) $5,000 - $5,999
(7) $6,000 - $6,999
(8) $7,000 - $7,999
(9) $8,000 - $8,999
(10) $9,000 - $9,999
(11) $10,000 - $10,999
(12) $11,000 - $11,999
(13) $12,000 - $12,999
(14) $13,000 - $13,999
(15) $14,000 - $14,999
(16) $15,000 - $19,999
(17) $20,000 - $24,999
(18) $25,000 - $29,999
(19) $30,000 and over

Appendix C - Confidence Limits

Size of Sample Necessary to be Practically Sure (9 times out of 10) of Accuracy Within Limits Shown $N = \frac{2.7225\ p\ q}{(1.65\ 0)^2}$

Percentage limits	Percentage values of p and q										Percentage limits
	5/95	10/90	15/85	20/80	25/75	30/70	35/65	40/60	45/55	50/50	
	(Number of interviews)										
0.6	3,592	6,806	9,642	12,100	14,180	15,881	17,204	18,150	18,717	18,906	0.6
0.8	2,021	3,829	5,424	6,806	7,976	8,933	9,678	10,209	10,528	10,635	0.8
1.0	1,293	2,450	3,471	4,356	5,105	5,717	6,194	6,534	6,738	6,806	1.0
1.2	898	1,702	2,411	3,025	3,545	3,970	4,301	4,538	4,679	4,727	1.2
1.4	660	1,250	1,771	2,222	2,604	2,917	3,106	3,334	3,438	3,473	1.4
1.6	505	957	1,356	1,702	1,994	2,233	2,419	2,552	2,632	2,659	1.6
1.8	399	756	1,071	1,344	1,576	1,765	1,912	2,017	2,080	2,101	1.8
2.0	323	613	868	1,069	1,276	1,429	1,548	1,634	1,685	1,702	2.0
2.2	267	506	717	900	1,055	1,181	1,280	1,350	1,392	1,406	2.2
2.4	225	425	603	756	886	993	1,075	1,134	1,170	1,182	2.4
2.6	191	362	513	644	755	846	916	967	997	1,007	2.6
2.8	165	313	443	556	651	729	790	833	859	868	2.8
3.0	144	272	386	484	567	635	688	726	749	756	3.0
3.2	126	239	339	425	499	558	605	638	658	665	3.2
3.4	112	212	300	377	442	495	536	563	583	589	3.4
3.6	100	189	268	336	394	441	478	504	520	525	3.6
3.8	90	170	240	302	354	396	429	452	467	471	3.8
4.0	81	153	217	272	319	357	387	408	421	425	4.0
4.2	73	139	197	247	289	324	351	370	382	386	4.2
4.4	67	127	179	225	264	295	320	338	348	352	4.4
4.6	61	116	164	206	241	270	293	309	318	322	4.6
4.8	56	106	151	189	222	248	269	284	292	295	4.8
5.0	52	98	139	174	204	229	248	261	270	272	5.0
5.5	43	81	115	144	169	189	205	216	223	225	5.5
6.0	36	68	96	121	142	159	172	182	187	189	6.0
6.5	31	58	82	103	121	135	147	155	159	161	6.5
7.0	26	50	71	89	104	117	126	133	138	139	7.0
7.5	23	44	62	77	91	102	110	116	120	121	7.5
8.0	20	38	54	68	80	89	97	102	105	106	8.0
8.5	18	34	48	60	71	79	86	90	93	94	8.5
9.0	16	30	43	54	63	71	76	81	83	84	9.0
9.5	14	27	38	48	57	63	69	72	75	75	9.5
0.0	13	25	35	44	51	57	62	65	67	68	10.0
15.0	6	11	15	19	23	25	28	29	30	30	15.0

Appendix D - Sample Design

Sample = 1,000	Total population(a)	Population strata(b)						
		500,000+	100,000-400,000	30,000-99,999	10,000-29,999	1,000-9,999	Rural non-farm	Farm
Eastern Ontario	1,149,300	455,370	-	160,050	93,045	124,045	266,985	49,780
S=	139	55	-	20	11	15	32	6
		Ottawa		Kingston Cornwall	Pembroke	Arnprior Carleton Place		
Hamilton Peninsula	1,567,705	67,445	1,081,615	69,005	58,910	76,380	175,935	38,395
S=	190	8	132	8	7	9	21	5
		Oakville	Metropolitan Hamilton St. Catharines	Brantford	Port Colborne	Paris		
Metropolitan Toronto	2,124,295	2,124,295	-	-	-	-	-	-
S=	257	257						
Southwest Ontario	995,235	-	459,300	109,820	76,285	90,510	192,550	66,780
S=	120	-	55	13	10	11	23	8
			London Windsor	Sarnia	St. Thomas	Tilbury		
Central/ Bruce	1,725,225	172,165	379,700	216,290	148,865	238,102	456,045	114,030
S=	209	21	46	26	18	29	55	14
		Markham	Kitchener-Waterloo Oshawa	North Bay Peterboro	Stratford Owen Sound	Bracebridge Hanover		
Northwest Ontario	702,750	-	213,845	105,860	64,710	135,110	173,195	10,015
S=	85	-	26	13	8	16	21	1
			Thunder Bay Sudbury	Sault Ste Marie	Kenora	Thessalon		

a Totals may not add because of rounding.

b Urban and semi-urban sample sizes were rounded to the nearest 5 in order to cluster interviews in groups of five per block. Census tracts and enumeration areas were randomly selected in each area. Rural, non-farm and farm enumeration areas were randomly selected in the rural subdivisions within each area and assigned to the nearest supervisor. Interviews were in clusters of five.

Appendix E
Respondent Selection Grid

GRID #1

TABULATE AS USED: _____

NO. OF MEN IN HOUSEHOLD	1 ADULT	2 ADULTS	3 ADULTS	4 OR MORE
0	WOMAN	OLDEST WOMAN	YOUNGEST WOMAN	YOUNGEST WOMAN
1	MAN	MAN	MAN	OLDEST WOMAN
2		OLDEST MAN	YOUNGEST MAN	YOUNGEST MAN
3			YOUNGEST MAN	OLDEST MAN
4 OR MORE				OLDEST MAN

GRID #

TABULATE AS USED: _____

NO. OF MEN IN HOUSEHOLD	1 ADULT	2 ADULTS	3 ADULTS	4 OR MORE
0	WOMAN	YOUNGEST WOMAN	YOUNGEST WOMAN	OLDEST WOMAN
1	MAN	MAN	OLDEST WOMAN	MAN
2		OLDEST MAN	WOMAN	OLDEST MAN
3			YOUNGEST MAN	WOMAN OR OLDEST WOMAN
4 OR MORE				OLDEST MAN

GRID #3

TABULATE AS USED: _____

NO. OF MEN IN HOUSEHOLD	1 ADULT	2 ADULTS	3 ADULTS	4 OR MORE
0	WOMAN	YOUNGEST WOMAN	OLDEST WOMAN	OLDEST WOMAN
1	MAN	WOMAN	MAN	YOUNGEST WOMAN
2		YOUNGEST MAN	OLDEST MAN	OLDEST MAN
3			OLDEST MAN	YOUNGEST MAN
4 OR MORE				YOUNGEST MAN

GRID #4

TABULATE AS USED: _____

NO. OF MEN IN HOUSEHOLD	1 ADULT	2 ADULTS	3 ADULTS	4 OR MORE
0	WOMAN	OLDEST WOMAN	OLDEST WOMAN	YOUNGEST WOMAN
1	MAN	WOMAN	YOUNGEST WOMAN	MAN
2		YOUNGEST MAN	WOMAN	YOUNGEST WOMAN
3			OLDEST MAN	WOMAN OR YOUNGEST WOMAN
4 OR MORE				YOUNGEST MAN

GRID #5

TABULATE AS USED: _____

_____

NO. OF MEN IN HOUSEHOLD	1 ADULT	2 ADULTS	3 ADULTS	4 OR MORE
0	WOMAN	OLDEST WOMAN	YOUNGEST WOMAN	YOUNGEST WOMAN
1	MAN	MAN	MAN	OLDEST WOMAN
2		OLDEST MAN	YOUNGEST MAN	YOUNGEST MAN
3			YOUNGEST MAN	OLDEST MAN
4 OR MORE				OLDEST MAN

GRID #6

TABULATE AS USED: _____

_____

NO. OF MEN IN HOUSEHOLD	1 ADULT	2 ADULTS	3 ADULTS	4 OR MORE
0	WOMAN	YOUNGEST WOMAN	YOUNGEST WOMAN	OLDEST WOMAN
1	MAN	MAN	OLDEST WOMAN	MAN
2		OLDEST MAN	WOMAN	OLDEST WOMAN
3			YOUNGEST MAN	WOMAN OR OLDEST WOMAN
4 OR MORE				OLDEST MAN

GRID #7

TABULATE AS USED: _____

_____

NO. OF MEN IN HOUSEHOLD	1 ADULT	2 ADULTS	3 ADULTS	4 OR MORE
0	WOMAN	YOUNGEST WOMAN	OLDEST WOMAN	OLDEST WOMAN
1	MAN	WOMAN	MAN	YOUNGEST WOMAN
2		YOUNGEST MAN	OLDEST MAN	OLDEST MAN
3			OLDEST MAN	YOUNGEST MAN
4 OR MORE				YOUNGEST MAN

GRIDS ARE NUMBERED 1 TO 7.
BEGIN WITH GRID # _____ TO SELECT YOUR FIRST RESPONDENT; THEN USE THE NEXT GRID TO SELECT YOUR SECOND RESPONDENT, ETC. WHEN YOU REACH GRID #7 GO BACK TO GRID #1 AND USE IN SEQUENCE. AS EACH GRID IS USED TABULATE IN THE SPACE PROVIDED.

ADULTS ARE HOUSEHOLD MEMBERS 18 YEARS OF AGE AND OVER.

Appendix F
Disposition of Sample

	Eastern Ontario	Hamilton Peninsula	Metro Toronto	Southwest Ontario	Central/ Bruce	Northwest Ontario
Total sample(a)	491=	661=	1346=	261=	627=	113=
	100	100	100	100	100	100
			(Per cent)			
Out of frame						
Language problem	4.5	6.5	7.4	1.9	0.8	3.5
Other (too old, deaf, vacant house, etc.)	2.0	1.2	1.3	1.1	1.6	1.8
None 18 years and over	0.4	0.1	0.3	0.4	0.3	-
Total	6.9	7.8	9.0	3.4	2.7	5.3
Sample frame	457=	609=	1224=	252=	610=	107=
	100	100	100	100	100	100
			(Per cent)			
Loss from frame						
No answer after 3 calls	30.6	30.7	32.8	21.4	25.6	13.1
Respondent not in after 3 calls	20.1	18.1	23.4	14.7	18.0	10.3
Household refusal	16.0	14.6	11.8	12.3	13.1	7.5
Respondent refusal	2.6	5.4	9.7	5.2	8.5	9.4
Incomplete interview	0.2	0.5	0.9	1.2	0.2	4.6
Total	69.6	69.3	78.6	54.8	65.4	44.9
Completed interviews	30.4	30.7	21.4	45.2	34.6	55.1

a Totals may not add because of rounding.

Pension Coverage and its Potential in Ontario

Harry Weitz

March 29, 1979

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INTRODUCTION

Income replacement for the non-working elderly in Ontario is to a large extent dependent upon two separate but closely related programs, the Canada Pension Plan and the complex of employment pension plans. Assessment of how well they work depends upon what they were designed to do. One of the key measurements of their success in fulfilling their respective roles is the extent to which they provide coverage of those for whom the programs were designed.

Coverage alone, needless to say, does not necessarily mean that benefits are ultimately assured. Coverage may not be effective because it was not long enough to earn any returns. Furthermore, benefits themselves may turn out to be low either because participation was too short or the earnings level over the entire working life was too low. At best, coverage represents exposure to at least the promise of ultimate benefits, providing, of course, that predetermined requirements are fulfilled.

There are two basic aspects to the question of coverage. One is how well does the program cover the population it was designed to benefit? Evaluation of the program rests on the degree of failure and an assessment of the reasons for any coverage shortfall. Failure may stem from such factors as the inherent inadequacy of the system itself, restrictions in design, or certain limiting conditions. It may also stem from factors outside the scope of the program. These may be related to employment patterns or specific policy considerations. The second aspect of the coverage issue is how extensive it may be in terms of the working population as a whole.

The issue of coverage therefore can be reduced to two broad questions. The first is, in terms of coverage, how well does a program do the job it was designed to do? The second is how do these coverage objectives, even assuming they are fully met, affect the total working population? Whom do they include, whom do they exclude, and why?

This study will examine both these questions. It will first look at the general objectives of the CPP and private plans in terms of the population for whom they were designed. The performance of these programs in meeting their objectives will be reviewed. In the following section, coverage in its broader terms will be examined and analyzed in relation to less restrictive components of the labour force. Participation will be reviewed in greater detail with an analysis of coverage in both the public and private sectors, differences in participation by men and women, and differences at various age levels; and will include a discussion of the role of Registered Retirement Savings Plans (RRSPs). Finally the non-covered population will be quantified and analyzed. Characteristics of the principal groups not covered will form the basis for an appraisal of the potential to extend coverage for each of the groups.

THE SYSTEM AS DESIGNED

Policy, whether public or private, determines the range of coverage. Predetermined goals and objectives establish the groups for whom the program is aimed. Having established the goals, the test of the program is how well it has fulfilled its role. How extensive, if at all, are the gaps?

Income replacement for the retired in Ontario is largely dependent upon the CPP and private pension plans. In concept and design the CPP and the private system are different and are based on different policies and rationale. Historically, the complex of employment pension plans was well established as an operating institution in Ontario, and in Canada as a whole, long before the CPP was introduced. Indeed the CPP was in large measure introduced because of the perceived inadequacies of the private system and was designed to fill these gaps.

In very broad terms, a characteristic common to the CPP and employment pension plans is that they are both earnings-related programs; that is, participation is predicated on employment for pay or profit. Therefore, by definition and design, the two major labour force components specifically excluded from both programs are unpaid family workers and the unemployed. (Coverage aspects of the unemployed will be discussed in greater detail below.) Employment pension plans have one further design restriction in that they specifically exclude the self-employed. Thus, the CPP is designed for all employment with earnings, whether for pay or profit, including both paid workers and the self-employed, while private plans are for paid workers only. Whether or not these excluded groups should be covered is a policy matter and extension to these groups, if desired, would involve redesign of the programs.

CPP Coverage

In broad terms, Table 1 shows the relative extent of coverage for the employed components of the labour force in Ontario who had earned income. Measurement of CPP participation is somewhat less than precise, in that it is based on two conceptually different data bases which are not completely comparable. Labour force data measure the situation at a given point in time. Thus, over the course of the year, with the ebb and flow into and out of the labour force, the numbers vary widely from month to month and from season to season. Use of the annual average smoothes out these variations and adjusts for the seasonality. Contributors to CPP represent the number of persons who contributed during the year: it includes not only all those who were in the labour force at any time during the year but also those who may have had their contributions refunded for reasons such as age or insufficient earnings. To bring the two series into a closer relationship, contributor data were adjusted to account for underage contributors and those whose contributions were below the employee minimum level. In addition some rough adjustments were made for the ebb and flow into the work-force.(1) Allow-

Table 1
Estimated Coverage in Ontario under CPP and Private Pension Plans for Selected Years 1969–1976

	Labour force annual averages				Covered by CPP		Covered by employment pension plans	
	Total labour force(a)	Employed labour force			Estimated number(c)	As per cent of paid employment	Plan members	As per cent of employed paid workers
		Paid workers	Self-employed	Paid workers and self-employed(b)				
				(Numbers in Thousands)				
1969		2,610	261	2,871	2,839	99	1,222	46.8
1973	3,509	3,015	267	3,282	3,273	99	1,446	47.9
1975	3,810	3,312	267	3,579	3,453	97	1,571	47.4
1976	3,931	3,384	271	3,655	3,504	96	1,608	47.5

a Includes employed and unemployed.
b Includes agricultural paid workers and paid workers, all ages.
c Estimates based on data in "Canada Pension Plan Contributors" various selected years, Health and Welfare Canada.

Source Statistics Canada, The Labour Force and special unpublished tabulations of labour force.
Health and Welfare Canada, Canada Pension Plan Contributors.
Statistics Canada, Pensions Data Bank.

ing for these shortcomings, the figures provided an approximation of the magnitude of coverage; too strict an interpretation should not be placed on minor fluctuations from period to period.

The data nevertheless confirm what is generally expected, that CPP covers virtually the entire employed work force who have either earnings or profits. Those falling outside the protection of the national program are few indeed.

Furthermore, virtually all participants in employment pension plans are also active participants in the CPP. At the end of 1966 for example, the latest year for which complete data are available, well over one and a half million (1,608,000) representing 47.5 per cent of the total paid workers in Ontario were covered by a private pension plan. Virtually all of these were also participants in the CPP. In that year, it is estimated that 96 per cent of the 3,655,000 employed paid workers plus the self-employed workers in Ontario were active members of the CPP. It would appear, therefore, the CPP by and large fulfills its role in covering the population it was designed to cover.

Participation in employment pensions in Ontario over the selected periods has grown significantly in absolute terms from 1,222,000 at the beginning of 1969 to over 1,600,000 in 1976. However, this growth was little more than a reflection of the growth of the paid workers in the labour force, with the two increasing more or less in unison. Therefore, the proportion of the paid workers in Ontario participating in private pensions remained relatively constant at about 47 per cent.

These figures do not, however, represent the full measure of how well employment plans fulfill the role for which they were designed. To fully evaluate the employment pension system one must look behind these figures and more specifically define the objectives in terms of whom they are designed to cover.

Objectives of Employment Pension Plans

The literature abounds in theories that attempt to explain the rationale and motivation behind the growth and development of the employment pension system. These include such concepts of the pension plans as "a device, instituted and nourished by business firms, to meet the social problems of old-age economic dependency,"(2) and include other theories such as the "human depreciation" and "deferred wage" theories. The general conclusion is that probably there is no single rationale for pension plans but rather that a number of broad and often conflicting forces combine to motivate their formation.(3) A major underlying force, as McGill points out, is the employers' objective of providing financial support for their retired employees. Thus, the employer assumes a degree of social responsibility for his employees, particularly for the long-term employees who through their efforts have contributed to the success of the enterprise. In essence private pensions are

employment-related and exist only where there is an employer-employee relationship. Consequently, in terms of design, objectives, and rationale, membership is predicated on employment with the sponsor and specifically excludes the unemployed.

Eligibility

Participation is closely linked to eligibility conditions prevailing in employment pension plans. They define the broad categories of employees who may participate and the conditions to be fulfilled for coverage. Participation is not uniformly a condition of employment. Generally, eligible employees of non-contributory plans are covered automatically, whereas in contributory plans participation may be a matter of choice. The larger contributory plans tend to make membership mandatory. This is particularly true of the large public sector plans. On a national basis, less than two-thirds of the private sector membership are in compulsory plans, with the balance in plans where participation is voluntary. Furthermore, according to the most recent study by Statistics Canada, "the number of plans that had a different participation condition for men and women continued to decline so that in 1976 only 1 per cent of all contributory plans had this variable condition compared with 3 per cent in 1974."(4)

Generally, therefore, it can be said that eligibility provisions do not significantly inhibit participation. In the plans where employees are given a choice, there may be some reluctance, particularly among younger workers, to join up. Unfortunately there are no current data to measure the extent or magnitude of the refusal of eligible employees to participate when a plan is offered to them. It is difficult to say whether the multitude of plans with voluntary membership represent most of the small plans because they are offered to only relatively small groups of employees, or whether they are small because many eligible employees simply refused to join. A study conducted over a decade ago indicates that relatively few voluntarily remained outside a plan when offered.(5) By and large, plans are designed to exclude the high turnover employees such as the very young, and short-service workers including seasonal and part-time employees.

Furthermore, some plans restrict membership to specific classes of employees; even here, many employers operate separate plans for excluded groups. Most plans had a service and/or age requirement for entry which amounted to one year or less of service and, where this was combined with age, the minimum was usually age 18. At the other end of the age scale in most plans normal retirement age was 65. Thus within the provisions of most plans participation was confined largely (but not necessarily exclusively) to employees between the ages of 18 and 64.(6) In selecting age 18-64 as the age limits for this study other factors were also considered.

Age

The labour force by definition includes all workers from the age of 15 and over but not all age groups fall within the orbit of pension coverage, particularly the very young and those 65 and over. The very young, those between ages 15 and 19, are at the threshold of their working careers. Of those who do enter the labour force, many do so on a temporary basis only, dividing their time between school and work. Even those who are more permanently attached to the labour force have a high incidence of job change. According to an Economic Council of Canada study, job mobility tends to be more pronounced among young workers who have a high propensity to move from job to job in search of satisfying work.(7) This tendency toward high job mobility accounts for the institutional restrictions on their membership in private plans. Furthermore, even when given a choice, youngsters do not save for old age; they are primarily concerned with current consumption. Thus personal choice, employment patterns, and institutional practices combine to severely restrict membership. However, since age 18 is the lower age limit for CPP participation it was taken as the lower age limit for this study.

Also to be considered is the upper age limit for participation, in most cases age 65. Over the past decade or so an interesting phenomenon has been developing in the employment pattern of the 65 and over. Demographic trends point to a growing proportion of the population concentrating in the age 65 and over group. Yet their participation in the labour force has been gradually declining. To some extent this trend can be attributed to the availability of private and public retirement benefits. Also contributing is the increasing tendency for private pension plans to have age 65 as the normal retirement age. Most workers when given the opportunity tend to retire as early as possible, particularly if assured of pension benefits. Thus, the terminal age for the pension target population could reasonably be taken to be age 64.

Employment Patterns

As noted above, because of the employer-oriented objectives, employment pension plans are designed primarily for employees with prospects of a continuing input into their employer's operation, and therefore tend to exclude part-time employees. Conceptually, this component of the labour force is defined as those who usually work less than 30 hours per week, exclusive of those who usually work less than 30 hours per week but consider themselves to be employed full-time.(8) In 1976 there was a total of over 394,000 part-time workers employed in Ontario, representing somewhat less than 12 per cent of total paid workers in the province. Significantly, however, 70 per cent of these were women, most of whom were employed in the private sector. In aggregate, one out of five women paid workers in Ontario had part-time employment in 1976, whereas less than 6 per cent of the male paid workers had part-time jobs. Thus, exclusion of this pattern of employment reflects most heavily on women. Nevertheless, without minimizing the need or rationale

for extending protection to the increasing numbers of women whose employment pattern to a significant degree falls in this category, in terms of the program's objectives, part-time workers fall outside the target population for which benefits were designed.

Performance of System as Designed

Based on these criteria the composition of the labour force which employment pension plans were designed to cover consists of full-time employed paid workers aged 18 to 64. In 1976 the estimated annual average of this group of workers in Ontario was 2,913,000. For the same period, pension plan membership in Ontario, exclusive of the armed forces, was 1,585,000. Thus, 54.4 per cent of the target labour force, as restrictively defined in this section, participated in private plans, and all were also covered by the CPP.

In broader terms, however, one must look beyond the performance of the system as designed and examine the extent of private plan coverage for a wider, more extensive segment of the working population. The next section, therefore, will examine the "target" labour force in wider and more general terms and will analyze the resultant coverage in greater detail.

COVERAGE OF REDEFINED TARGET POPULATION

The major point of departure for this section will be treatment of the part-time workers. Since the analysis will be centred on the target population as redefined in this section, the significant characteristics of the covered population will be examined in detail. This will include a review of the variations in coverage by sector, age, and sex of paid workers, with some comment on the role of the RRSP for the self-employed. The coverage gaps revealed here will be examined in more detail in the concluding section together with an overall review of non-covered workers including the unemployed and non-paid family workers.

Part-time Workers

Nearly 10 per cent of employed paid workers are classified as part-time employees, but most of these are women. Because many women split their working years with a period for child-bearing and child-rearing, their full-time employment years tend to be shortened; and many are able, or elect, to work on a part-time basis only. Consequently, in the past, part-time employment has been a predominant pattern for women; and as noted earlier, one of five women in paid employment has a part-time job. With women becoming an increasingly significant element in the labour force, part-time workers justifiably could be included in the pension target population that forms the basis for evaluating coverage. Table 2 shows an estimate of employed paid workers in Ontario in 1976 who were between age 18 and 64 and so constitute the "target population"

thus far defined. Accordingly, out of a total target of a work-force of 3,218,000 there were 1,585,000 workers in private pension plans, representing a coverage ratio of over 49 per cent.

Students

The role of students in this analysis requires special comment. As noted earlier, young people are spending more time at school to acquire advanced knowledge and skills so as to be more competitive in the labour market. Although over this period they may enter the labour force on a full-time basis for part of the year or have part-time employment, availability of pension coverage over this period is not significant. Therefore, to the extent that students are counted in the labour force, one could justifiably exclude them from the target population for pensions. Measuring their labour force participation, however, presents certain data problems.

Conceptually, students, and incidentally housewives as well, are specifically classified as "not in the labour force." Only when they actively seek work or take a job are they included. Thus when students start working during their summer break, taking either full-time jobs or part-time work (as defined herein) they swell the ranks of the employed. In reality there is an ebb and flow of students into and out of the labour force over the year. Also to some extent full-time students may have part-time jobs that bring them into the orbit of the labour force. By selecting age 18 as the lower terminal age, the impact of student labour force participation has been greatly reduced. However, with the tendency for young people to extend their schooling years, some added adjustments might be made, particularly at the 18-24 age levels. The extent to which students in these age categories are in the labour force can be measured only in broad terms because precise data are not available. At best, one must rely upon special studies of student employment which have been limited to specific months of the year. These data are not readily comparable to the seasonally adjusted annual average so that only rather broad estimates can be made. According to an unpublished special study produced by Statistics Canada in 1971, it was estimated that in April of that year 23 per cent of the youth in the labour force between ages 14 and 24 were students, with heavy concentration among those between 14 and 19. If one were to project this figure, it might be assumed that approximately 20 per cent of the paid workers in this age group, on average, were students. The difference in coverage resulting from excluding students is marginal at best.

Based on the broader "target" population which includes part-time employees and adjusts for students, in 1976 over half (50.4 per cent) of paid workers in Ontario participated in an employment pension plan - all of whom also had CPP coverage. Participation was much higher for men, amounting to nearly 58 per cent while only 39 per cent of women had coverage.

Table 2
Paid Workers Age 18-64 by Sector, Full and Part-time Showing Adjustments for Target Population

Employed paid workers (18-64)	Male		Female		Both sexes	
	(Thousands)	(Per cent)	(Thousands)	(Per cent)	(Thousands)	(Per cent)
Public sector						
Total(a)	391		263		652	
Part-time	10	(2.5)	36	(13.7)	46	(7.1)
Full-time	380	(97.1)	228	(86.7)	608	(93.2)
Private sector						
Total	1,578		986		2,566	
Part-time	61	(3.9)	198	(20.1)	259	(10.1)
Full-time	1,517	(96.1)	788	(79.9)	2,305	(89.8)
Both sectors						
Total	1,969		1,249		3,218	
Part-time	71	(3.6)	234	(18.7)	305	(9.5)
Full-time	1,898	(96.3)	1,015	(81.3)	2,913	(90.5)

a Totals may not add because of rounding.

Coverage by Sector

A closer examination of coverage in more detailed components of the work force provides greater understanding of the role employment plans play in providing a vehicle for retirement savings. As may be seen in Table 3 nearly 58 per cent of the men participate in a plan whereas only slightly over one-third of the women do so. Significantly, however, the pattern of coverage varies widely from the public to the private sector. Coverage in the public sector is virtually universal with 92 per cent of the men and over 98 per cent of the women in a pension plan. Labour force data do not provide a precise split between federal and provincial public employment. Nevertheless, a very rough estimate indicates that employees at all levels of provincial government activity have coverage which runs as high as 98-99 per cent. Federal coverage tends to be somewhat lower, indicating a certain amount of part-time employment which would keep the coverage level down. In aggregate, just under 95 per cent of all workers employed in Ontario by all three levels of government have pension coverage. Thus the coverage gap in the public sector is virtually non-existent.

The main shortfall in coverage, therefore, may be found in the private sector. Just under half of the men working for wages and salaries in this sector participate in a private plan. But the largest shortfall is among women; just over one in five have coverage. Well over three-quarters of the women are outside a plan; many of these are part-time workers, a group that generally tends to fall outside the scope of private programs.

Table 3
Coverage of Employed Paid Workers in Ontario Age 18-64 by Sector and Sex, 1976

Sector	Men	Women	Both sexes
		(Per cent)	
Public sector	92.3	98.4	94.8
Private sector	49.4	21.7	39.1
Both sectors	57.8	38.6	50.4

Coverage by Age and Sex

Estimates of age distribution of plan members were based on income tax data. This source provides a distribution only of those who contributed to a private pension plan and therefore does not include members of non-contributory plans.

It is recognized that the different eligibility conditions between contributory and non-contributory plans could affect the age distribution. Whereas contributory plans may have a minimum age requirement for participation, membership in non-contributory plans is usually unconditional, so that coverage starts with employment. Consequently, there

may be a greater number of young workers in non-contributory plans. Since there are no data to adjust for this difference, there may be a slight distortion at the younger age levels between 18 and 24. Nevertheless, since tax data cover nearly three-quarters of all plan members in Ontario, it may be taken as a good indication of the order of magnitude of participation in private pension plans by the various age groups.

As may be seen in Table 4 the highest coverage ratios were found in the prime working ages. At the lower age extremity only 27 per cent of employed paid workers in the 18-24 age group were in a plan. At the other extreme about one-third of the workers aged 65 and over were covered; probably most of these were in the private sector. Pension coverage in 1976 was largely concentrated between the ages 25 and 64. In the younger age groups, 25 to 44, it was estimated that over half (52 per cent) were plan participants. At the older levels, in the age grouping 45-54, the ratio went up to over 59 per cent and those aged 55 to 64 had a coverage ratio of over 68 per cent.

Generally coverage was more comprehensive among men with the major gaps appearing among women workers. At all age levels coverage was higher. Nearly one-third of the men between the ages of 18 and 24 were plan members. Nearly 55 per cent of the next age group had coverage. From age 35 onwards at least two-thirds of the men had coverage rising to over 80 per cent of those in the age group of 55-64.

As noted earlier, the significant gaps are found among women workers; and since most women engaged in public sector employment have pension protection, it follows that the gap is almost entirely in the private sector. As may be seen in Table 4 women under age 35 have comparable coverage to men at those age levels. It may be that this coverage rate reflects a changing employment pattern emerging for the current generation coming into the labour force. Kreps points out that there is evidence that the work-life cycle for women is increasing with higher levels of labour force participation. She points out that "... there is increasing evidence that young women now in the labour force have much stronger attachments to the labour force than was true of earlier cohorts and that they are less likely to return to full-time home work either to meet family responsibilites or because the job market is unfavourable."(9) Should this trend continue, then, as the current younger generations move up through the age scale, and women's employment patterns move from the present concentration in part-time jobs to full-time activity, coverage levels should also increase. In the meantime, as may be seen in Table 4 women in their middle ages have a far lower rate of pension participation than men. At the ages 35-44 about two-thirds of the men and only one-third of the women have coverage. The contrast is even sharper for the 55-64 groups, with only 44 per cent of the women and nearly 81 per cent of the men being active members of a plan.

Table 4
Estimated Distribution of Plan Members in Ontario by Age and Sex Showing Percentage of Employed Paid Workers Covered by Pension Plans, 1976

Age	Men			Women			Both sexes		
	Membership number(a)	Employed paid(b) workers	Covered paid workers	Membership number(a)	Employed paid(b) workers	Covered paid workers	Membership number(a)	Employed paid(b) workers	Covered paid workers
	(Thousands)		(Per cent)	(Thousands)		(Per cent)	(Thousands)		(Per cent)
18-24	96	330	29.1	70	284	24.6	166	614	27.0
25-34	314	573	54.8	160	337	47.5	474	911	52.0
35-44	260	411	63.3	85	244	34.8	345	655	52.3
45-54	252	374	67.4	97	214	45.3	349	588	59.3
55-64	182	226	80.5	51	116	44.0	233	342	68.1
18-64(c)	1,107	1,914	57.8	461	1,195	38.6	1,568	3,110	50.4
65 and over	12	36	33.3	5	15	33.3	17	51	33.3
Total	1,119	1,950	57.4	466	1,210	38.5	1,585	3,161	50.1

a Adjusted for armed forces.
b Age group 18-24 adjusted for estimated student labour force participation.
c Figures may not add because of rounding.

Source Estimates of age distribution of plan members derived from special tabulations of National Revenue income tax data on contributors to private plans. Plan membership from Pensions Data Bank and paid worker data derived from Statistics Canada, Labour Force.

RRSPs as a Vehicle for Pension Savings

A program which has come to assume an ever-increasing role in income support for the elderly is the Registered Retirement Savings Plan (RRSP). It was designed primarily as a personal retirement savings vehicle. Individuals who feel they will need more than the benefits offered by the CPP or their employment pension plan can set up a personal retirement savings program through this system. Within certain limits, contributions may be deducted from taxable income before calculation of income tax. Earnings on RRSP investments are accumulated, tax-free, until retirement when the money may be used for an annuity. At this point payments as received become taxable but presumably (though not necessarily) at a lower tax rate since income tends to be reduced.

Different contribution ceilings apply for private pension plan participants than for non-participants. Non-participants, whether employees or self-employed, may contribute up to 20 per cent of earned income to a maximum of $5,500. Contributors to employment plans are limited to 20 per cent of income up to a maximum of $3,500, reduced by their pension contributions, so that in total their pension savings may not exceed $3,500 for tax deferment purposes.

When introduced in 1957 RRSPs were originally intended for the self-employed, to give them the same tax deferred pension savings opportunities as were available to contributors to occupational pension plans. From these early beginnings they were rather slow to take root; only in recent years have they become a significant savings vehicle, widely used not only by the self-employed but by private plan members as well. In addition, group RRSPs have become popular among employers, either as a supplement to an existing non-contributory plan, or as a substitute for an employer-sponsored plan.

Tax treatment of RRSP contributions has tended to increase participation to the point where annual purchases now equal or even surpass total employee contributions to private pension plans. But this level of participation built up slowly over the years. Almost ten years after their inception, less than 2 per cent of total tax filers in Canada in 1966 contributed to RRSPs. Proportionately the level increased better than fivefold over the next decade; in the 1976 tax year 10.5 per cent of the tax filers reported RRSP participation. In absolute terms the numbers rose from far less than 100,000 contributors in 1966 to nearly 250,000 in 1970, and over the next six years skyrocketed to 1,225,000 persons in Canada in 1976, nearly half of whom (525,000) were in Ontario. In dollar terms the growth is even more impressive. Over the 1970s alone they rose from over $225 million in Canada as a whole during 1970 to $2,115 million in 1976, with a total of $846 million in Ontario alone.

While RRSPs were designed as a pension savings instrument, participation in them may be linked to the tax treatment of contributions -

thus, to some extent, transforming them into a tax shelter. Indeed one can trace the growth in participation, and more specifically the rapid rise in contributions to changes in maximum allowable levels. For example, the limits rose in 1972 from a maximum of the lesser of 10 per cent of earnings or $2,500 for non-participants and $1,500 for pension participants to 20 per cent or $4,000 for non-participants and $2,500 for participants. This has since been raised to the current level of $5,500 and $3,500 respectively. These changes undoubtedly contributed to the sharply increased volume of activity, since after each change there was a sharp rise in purchases. At the same time, however, it must be recognized that not all the money channelled into RRSP funds necessarily end up as pension savings.

The Commission's Consumer Survey shows that a very high proportion of RRSP holders intend to use these funds for retirement. When asked how they intended to use their RRSPs most (80.1 per cent) replied that they planned to keep them for retirement. Another 7 per cent said they intended to use at least part of these savings for retirement.(10)

It is evident from the Commission's survey that RRSPs provide an important means for accumulating retirement savings. Table 5 puts into another perspective the role of RRSPs for Ontario taxpayers, showing their numbers by income group, average contributions, and the proportion of total tax filers in each income group who participated in this form of savings. Although aggregate figures are available for 1976, the details presented herein are not yet available for that year so 1975 data have been used. Since in aggregate contributors rose from slightly over 9 per cent in 1975 to about 10.5 per cent of all tax filers in Canada in 1976 the figures as distributed in Table 5 will not change significantly; therefore the 1975 data may be assumed to be indicative of prevailing patterns.

As may be seen in Table 5, RRSP participation is directly related to income. As income increases, more money is available for discretionary savings. Consequently, although in aggregate only 9 per cent of tax filers had this form of savings, the proportion ranged from less than half of 1 per cent to over 52 per cent according to income. At the mid and lower income levels of those with incomes of less than $10,000 per year, relatively few tax filers made any contributions to an RRSP. Beyond that, at the higher income levels, it increased sharply with well over one-third of those earning $20,000-$24,999 in 1975 contributing to an RRSP. Well over half of those with $25,000 or more did so.

In aggregate there were nearly 437,000 tax filers in Ontario who contributed, on average, $1,376 to an RRSP in 1975. In the following year these figures increased to 525,000 persons with an average contribution of $1,611. As one would expect, these averages mask the actual range of contributions made. At the low end of the income scale relatively few persons with annual incomes of less than $3,000 had an RRSP and on average contributed around $300 in 1975. Those with incomes of

$10,000 or more, who presumably are more able to set money aside for the future, on average contributed $959 in the $10,000-$14,999 level, increasing to $1,665 for those in the $20,000-$24,999 range, and $2,462 for those earning $25,000 or more. None of the averages reached the maximum allowable, although undoubtedly individuals at virtually all income ranges made such contributions. These are masked, in part, by the lower allowable levels for the dual contributions - that is, from those who contributed to both an RRSP and an employment pension plan.

As noted earlier, RRSP contributors are concentrated at the higher income levels. Table 5 shows that over 83 per cent had annual incomes of $10,000 or more. Furthermore, in this group it is estimated that some 45 per cent were dual contributors as defined above. Indeed, nearly all dual contributors were at this income range; very few - less than 10 per cent in most lower income levels - contributed to a private pension plan as well.

Table 5
Registered Retirement Savings Plans Contributors in Ontario by Income Showing Average Contribution and Proportion of Tax Filers Contributing, 1975

Income	Proportion of tax filers with RRSPs	RRSP number	Contributors' percentage	Average contribution
(Dollars)				
Under 2,000	.2	1,889	.4	295
2,000- 2,999	.5	1,852	.4	311
3,000- 3,999	.9	3,047	.7	388
4,000- 4,999	1.5	4,430	1.0	486
5,000- 5,999	1.9	5,509	1.3	529
6,000- 6,999	3.3	9,312	2.1	625
7,000- 7,999	5.0	13,832	3.2	664
8,000- 8,999	6.6	16,803	3.8	733
9,000- 9,999	6.6	16,135	3.7	828
10,000-14,999	12.1	119,431	27.3	959
15,000-19,999	21.9	99,908	22.9	1,287
20,000-24,999	35.4	58,163	13.3	1,665
25,000 and over	52.2	86,676	19.9	2,462
Total	9.1	436,987	100	1,376

Source Statistics Canada, special tabulations of income tax data.

These patterns of concentration at the higher income levels logically occur not only because these persons are most likely to have surplus for savings, but they also have more to gain because of their higher marginal tax rates. To some extent also, at these levels participants in employment plans feel they may need more retirement income than their existing programs provide; they are more likely, and more able, to supplement these through the RRSP.

As originally intended, there is no doubt that many self-employed take advantage of opportunities for tax-sheltered pension savings through an RRSP. In any one year the exact number who do so, however, can only be estimated from existing income tax data. Special tabulations of income tax data can identify individuals who in the tax year contributed to both an employer plan and an RRSP; but this source is not sufficiently sensitive to isolate members of non-contributory pension plans who contributed to an RRSP. It must be assumed that non-contributory plan members, particularly those at the higher income levels, would also supplement their retirement savings. Nevertheless, on a national basis, fairly good estimates of self-employed RRSP participants may be compiled.

The extent of participation in pension savings via RRSPs by the self-employed in Ontario may be derived from national data produced by special tabulations of income tax data. Since the special taxation tabulations show that over 40 per cent of the RRSP contributors were in Ontario in 1975 (the latest year for which data at the required level of detail are available) the national pattern can be said to be representative of Ontario. A review of contributors to RRSPs by occupation shows, among other details, that in some professional classifications as many as 60 to 70 per cent contributed to RRSPs. In aggregate, however, about 16 per cent of all self-employed in Canada had this type of savings. On this basis it may be said that out of the 271,000 self-employed in Ontario in 1976, at least 43,000 had an RRSP.

It would appear therefore that RRSPs as an instrument for tax-deferred retirement savings are used not only by the self-employed but by others as well. While admittedly RRSPs are used for tax-sheltered savings, it would appear that this is not an extensive practice and annual "cash-outs" are not too widespread. This is confirmed by the Commission's survey and is further reflected in the large and growing specialized funds being accumulated by the financial institutions from this source. With the high incidence of dual contributors among RRSP holders it is evident that to a very large extent these savings are used as a supplement to existing employment pension plans. Furthermore, with cash flows of well over $2 billion annually, RRSPs in their own right have become a major financial institution. With a large proportion of these funds flowing from Ontario taxpayers the significance to the province is considerable.

Analysis of the Commission's Consumer Survey provides further details on the role of RRSPs in the retirement savings practices of Ontario citizens.

NON-COVERED WORKERS AND THEIR PROSPECTS FOR COVERAGE

An appraisal of prospects for extending pension coverage must take into account the principal characteristics of those not covered. The

outline below identifies and quantifies the major groups not covered; this section will examine each group and discuss the prospects for expanding their participation in employment pension plans.

Table 6
Workers in Ontario without Pension Coverage, 1976. Who Are They? How Many Are There?

Who are they?			How many?
Unpaid family workers			34,000
Unemployed			242,000
Self-employed			271,000
Uncovered paid workers			1,554,000
Public sector		33,000	
Men	29,000		
Women	4,000		
Private sector		1,521,000	
Men	779,000		
Women	742,000		
Total			2,101,000

Unpaid Family Workers

As long as pension coverage is confined to the employment relationship these 34,000 workers automatically will be excluded. This applies to the CPP as well. In the latter case, however, public policy may change to include specific groups - for example, housewives who were excluded from the CPP because they had no earnings on which to base either contributions or benefits.

Unemployed

As long as the 242,000 workers are in this category, they are not only outside the scope of private pension coverage but also fall outside of coverage by the CPP as well. Both programs confine membership to those with earned income from employment. Aside from this restriction, the age composition of the unemployed is another factor that places many in this group outside potential coverage.

Unemployment generally tends to be much higher among young workers than older ones. A study in the United States found that there is an increase by age in the stability of labour force participation. Unemployment and job change was much higher for those under age 25 than for older workers.(11) This was further substantiated by an Economic Council of Canada study which concluded that young workers have a high propensity to move from job to job in search of satisfying work.(12) Indeed, of the 242,000 unemployed in Ontario in 1976 nearly half were under age 25. Because of the tendency toward high job mobility among

young workers, their membership in private plans is restricted. Thus a significant proportion of the unemployed are the young to whom pension coverage is a secondary consideration at best, and who generally could not expect to be covered until they are older.

In times of high unemployment, however, there are some related concerns. Generally speaking, within individual firms, workers with the least seniority are the first to be released; existing plan members tend to be the last to be affected since membership assumes at least a minimum period with the same employer. However, when economic conditions deteriorate and unemployment reaches high levels even long-term workers are affected. Under these conditions, when unemployment becomes so pervasive as to affect plan attachment, it interrupts or even stops benefit accumulation and so reduces the likelihood of a good pension, or even any pension at all, being accumulated. This raises the question of preservation of accrued benefits. The CPP at least preserves earned benefits by locking in both employer and employee contributions. Another closely related question is whether an unemployed person, particularly if unemployment is over an extended period, would prefer to eat now or save for old age.

Some countries have used pension programs to ease their unemployment problems. They have reduced retirement age and provided incentives for older workers who could not find employment to join the retirement rolls. In the process, however, the retirement system is not used for the functions for which it was designed. Philosophically, income support for the unemployed is fundamentally different from income support for the elderly so that separate programs are designed and used to meet each contingency. One cannot be used to resolve the difficulties of the other without seriously eroding and disrupting the program.

Non-coverage of the unemployed is not primarily a reflection on the pension system but is largely the result of prevailing employment and economic conditions which are outside the realm of pensions. The basic problem is to bring these workers into gainful employment.

Self-Employed

All the 271,000 self-employed in Ontario are, by definition, covered by the CPP. Supplementation of these benefits is largely the responsibility of the individual. As discussed above, there are tax incentives to induce the self-employed to save systematically for old age through the RRSP. And as noted, at least 16 per cent take advantage of this opportunity. Even at this level, when one considers the attractive tax benefits for RRSPs it is surprising that so few of the self-employed take advantage of this savings vehicle. To a large extent personal savings and other asset accumulations no doubt constitute the major source for income replacement in old age for the self-employed. Thus coverage for most of this group is primarily a matter of self-determination.

Non-covered Paid Workers

The 1,554,000 persons in this segment of the work-force constitute the largest single group outside the private program, though virtually all are in the CPP. Not only does this category represent nearly three-quarters of all persons without coverage but is most likely to serve as the mechanism for ultimately bringing the unemployed under private plans. Therefore, this is the group that requires special attention.

It is estimated that pension plan sponsors employed about two-thirds of the paid workers, but not all of them participated in their employer's plan.(13) Many employees, for a variety of reasons, do not participate even when a plan is available. Some workers are temporarily excluded because they have not yet fulfilled eligibility requirements of the plan. Others, when given the choice, elect not to join. Plans tend to make participation a matter of individual choice where employee contributions are involved, particularly in contributory plans. Studies have shown that as many as 10 per cent of the employees on payroll when given the choice elected not to join available plans even though they were eligible.(14)

Virtually all, 98 per cent, of those not covered in 1976 were in the private sector where the major shortfall exists. Of the 1,521,000 in the private sector who were without a private plan, nearly half were women. Of those, one in five were in part-time employment which, as was noted earlier, leaves them outside the scope for potential participation. Only 8 per cent of the men were in this category. Among the men in this category a high ratio tended to be under age 25 - the high turnover group most likely to be excluded from plans. Presumably as these workers grow older their potential for coverage increases.

These data show the situation in 1976 and do not fully reflect the impact of the human rights legislation particularly on pension plans. Generally speaking there already were limited restrictions on women in plans and the few remaining differences were rapidly disappearing.(15) Once the human rights legislation is fully reflected in plans these marginal differences will disappear altogether. The major remaining deterrent to expansion of coverage for women therefore will be their pattern of employment. The current trend points to extended labour force participation by women. When combined with increased awareness of the need for long-term planning for retirement, the prospects for expanded coverage should increase.

An overriding factor inhibiting greater coverage is the fact the pension plans in the private sector tend to be concentrated among large employers. In Canada as a whole, fewer than 16,000 plans were in operation in 1976 among some 600,000 business entities. A similar ratio would apply to Ontario as well. Schulz points out that "a profile of these small employers would include the business proprietors found on

any typical small town Main Street or any large city neighbourhood shopping centre; the small retailer, the local restaurant, the service station, repair service, the barber and beauty shop, the doctor, the dentist, the auto dealer - and many, many more small employers of wage and salaried workers."(16) This accurately describes the situation in Ontario as well. It is among these small employers that many of the more than one and a half million non-covered workers are employed.

What are the prospects for expansion in this area? The multitude of small employers have available to them two facilities that hold some promise for extension of coverage to their employees. The first of these is the multi-employer plan. It has the merit of spreading the cost of development and operation among a number of employers, bringing the unit cost down to a manageable level for individual employers. Savings are made by using a prototype master plan for all participating employers. The other development holding promise for the small employer is the RRSP and particularly the group RRSP. It serves as a ready funding medium for money purchase arrangments having all the necessary qualifications to meet regulatory requirements.

However, even with these developments there are other factors that tend to limit the degree of expansion among the small operators. The small firm tends to be relatively young in years. In the early years of development the priority for funds tends to be for business expansion rather than pensions. The small employer who owns his own business tends to view pension contributions as a personal cost. Finally, the small business owner is frequently an independent person who strongly believes that each individual is responsible for his own financial future. In the small family enterprise he may be more motivated by the need to provide for himself and his heirs than for his employees.

Some of these restricting forces have been overcome through the medium of the multi-employer plans. There has been evidence of growth in this area, particularly in Western Canada. Also, the group RRSP is another vehicle available to the small employer. Its main merits are that at least it does not involve excessive development and operating costs and leaves the accumulation of funds largely in the hands and control of the workers themselves.

Significant advances are thus being made in removing barriers to further extension of private pension coverage. There still are substantial gaps. These gaps in coverage cannot easily be removed entirely as long as workers move from employer to employer and private plans exclude participation during initial periods of employment.

This review was focused primarily on existing employment patterns and trends that appear to be developing over a relatively short term. To go beyond that would be largely speculative. Yet in the light of demographic trends over the balance of this century and on into the twenty-first century some forward looking would be in order. It is

obvious that as the baby boom generation passes through middle age and on to retirement, after the year 2000, their aging process among other things will have a serious impact on earning replacement programs for the retired. This is an appropriate time to at least make some informed judgments of what the future may bring so that adequate policies can be developed today to meet the contingencies of the future. The long-term issues are clearly outside the terms of reference of this study but in evaluating coverage, and particularly its potential growth in Ontario, one inevitably must come to grips with the implications of demographic trends.

NOTES

(1) Although the self-employed have a somewhat higher minimum earnings level than paid workers, data detail did not allow for this adjustment. Numbers of contributors were invariably higher than annual average labour force and therefore contributors for each year were reduced by the ratio of difference.

(2) See Dan M. McGill, Fundamentals of Private Pensions, Richard D. Irwin, Inc., Homewood, Illinois, p. 20.

(3) Joseph J. Melone, and Everett T. Allen, Pension Planning: Pensions, Profit Sharing and Other Deferred Compensation Plans, Dow-Jones-Irwin Inc., Homewood, Illinois, 1966, p. 17, also see McGill, Fundamentals of Private Pensions.

(4) Statistics Canada, Pension Plans in Canada, 1976, p. 32.

(5) A very old study "Survey of Pension Coverage 1965" indicates that in Canada as a whole about 2 per cent of the paid workers chose not to join their employers' plan.

(6) Statistics Canada, Pension Plans in Canada, 1974, p. 35.

(7) Economic Council of Canada, "People and Jobs," pp. 90-94.

(8) Statistics Canada, The Labour Force, Cat. 71-001.

(9) Juanita M. Kreps, "Social Security in the Coming Decade: Questions for a Mature System," Social Security Bulletin, March 1976, p. 26.

(10) The role of RRSP as a pension savings program based on the Commission's Consumer Survey is discussed in greater detail in the separate study supplementing this report.

(11) M.W. Riley, M. Johnson and A. Finer, eds. "Aging and Society," Vol. 3, p. 172.

(12) Economic Council of Canada, "People and Jobs," pp. 90-94.

(13) Harry Weitz, "Private Pension Plan Coverage," see also "Pension Plans in Ontario Statistics 1963," The Pension Commission of Ontario, p. 4.

(14) Statistics Canada, Survey of Pension Plan Coverage, 1960, Cat. 74-506.

(15) Statistics Canada, Pension Plans in Canada, 1976, Cat. 74-401.

(16) James H. Schulz, "Pension Aspects of the Economics of Aging: Present and Future Roles of Private Pensions," a working paper prepared for The Special Committee on Aging, United Stated Senate, January 1970, p. 26.

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Contributors and Contributions to Registered Retirement Savings Plans in Ontario

Harry Weitz

June 27, 1979

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INTRODUCTION

Two decades after its introduction in 1957, the Registered Retirement Savings Plan (RRSP) program has evolved into an important savings vehicle in Canada.(1) Initially the program was rather slow to take root, prompting one researcher in the mid-1960s to observe that "a tax deduction scheme that attracts only 1.4 per cent of eligible taxpayers must be judged something less than a smashing success."(2) Since that time it has been expanded and extended much beyond its initial limits and consequently attracted increasing taxpayer participation. By 1976, the latest year for which data are available, 10.5 per cent of the over 12 million persons who filed income tax returns in Canada reported RRSP contributions. Significantly, the value of these payments reached a record level of well over $2 billion. With annual accumulations of this magnitude the program has come to represent an important component of gross personal savings in Canada.

To provide some insight into the role of RRSPs in the pension savings system as well as a general profile of participants and their personal characteristics, one must turn to income tax data as a primary information source. These data, however, have certain limitations. At best they provide a snapshot picture at a given point in time. As such, the data show the personal and other characteristics of all persons who filed a tax return and contributed to an RRSP in a given year. One cannot differentiate between single year contributors and those who make regular annual contributions. Some sense of the longitudinal patterns may be inferred from an examination of changes over time. Therefore, in this review some historical trends will be analyzed.

A further limitation of this data source is that the annual payments reported in income tax records represent gross inflow of funds. They do not reflect cash-outs that inevitably occur during the year. In the normal functioning of this program some of the funds are withdrawn to purchase annuities for eligible participants. Furthermore, and more important in terms of the focus of this study, those funds placed in the system for tax shelter purposes will obviously be withdrawn, and not kept as a long-term accumulation for future pension income. The degree to which the program serves as a pension savings vehicle rather than a tax shelter may be inferred from the magnitude of the funds accumulated over the three decades of its existence. It is estimated that at the end of 1978 RRSP aggregate savings in Canada amounted to well over $7 billion, representing a substantial portion of the gross inflow since 1957. Therefore, notwithstanding the regular withdrawals, this substantial accumulation suggests that by and large RRSPs are serving their primary function as pension savings. This is further corroborated by the Commission's Consumer Survey which shows that a high proportion of participants indicated that their RRSPs were purchased for pension income.

Subject to these limitations, income tax records provide a valuable data base for a study of RRSPs. To place the program in perspective, the first section of this study will review the growth of RRSPs in Canada over the 1970s, with emphasis on the 1976 tax year - the latest year for which complete data are available. This overview will be followed by an examination and analysis of the trends in Ontario. It will show the extent of participation in the province and the changing characteristics of participants in terms of age, income, sex, and contribution level.

OVERVIEW OF RRSPs IN CANADA

Proportion of Tax Filers in Canada with RRSPs

There has been a dramatic growth of participation in RRSPs by Canadians over the first half of the 1970s. In relative terms, participation remained at a low level in the first decade of the program's existence, and it was only in the 1970s that RRSPs came into their own. The growth was not only among men but more significantly, as more and more women joined the labour force, an increasing proportion used this type of savings. Participation ranged from a low of 1.2 per cent of women who filed tax returns in 1969 to 6 per cent in 1976. Among men, it rose from 2.8 per cent to 13 per cent over the same period. The full impact of this expansion comes into sharper focus when one realizes that over this same period the total number of persons in Canada who filed income tax returns grew enormously from nearly 8.5 million to well over 12.3 million persons in 1976. Therefore, over this period an increasing proportion of a sharply rising number of tax filers entered the program so that in absolute terms the expansion was very extensive indeed.

Table 1
Proportion of Tax Filers in Canada with RRSPs, by Sex, Selected Years, 1969-1976

	Men	Women	Both sexes
		(Per cent)	
1969	2.8	1.2	2.3
1973	8.8	3.7	6.9
1975	11.6	4.9	9.0
1976	13.3	6.2	10.5

Source Non-published data provided by Revenue Canada, Taxation.

Growth in Contributions and Membership

This expansion was reflected not only in the number of RRSP purchasers, but also in the remarkable growth in both total and average contributions over the past few years. This shows up sharply in Table 2 which shows contributors, average and total contributions to RRSPs by

Table 2
RRSP Total and Average Contributions by Province, Selected Years, 1969-1976

	1969		1973		1975		1976	
	Contributors (Number)	Average contribution (Dollars)	Contributors (Number)	Average contribution (Dollars)	Contributors (Number)	Average contribution (Dollars)	Contributors (Number)	Average contribution (Dollars)
Newfoundland	1,480	834	5,611	1,192	8,602	1,426	9,952	1,653
Prince Edward Island	536	831	2,241	1,307	3,427	1,329	3,783	1,586
Nova Scotia	4,914	735	16,827	1,178	25,655	1,252	30,994	1,503
New Brunswick	3,438	839	11,797	1,148	17,796	1,306	20,152	1,525
Quebec	39,536	867	164,521	1,136	218,408	1,307	284,544	1,513
Ontario	89,459	859	311,897	1,188	436,987	1,376	525,144	1,612
Manitoba	11,222	817	42,218	1,148	58,177	1,417	62,958	1,578
Saskatchewan	10,019	823	38,704	1,503	58,700	1,916	61,857	1,999
Alberta	18,287	908	66,834	1,351	102,003	1,517	117,473	1,815
British Columbia	26,223	938	93,483	1,291	142,493	1,462	167,208	1,744
Yukon and Northwest Territories	324	822	1,603	1,173	2,518	1,394	2,911	1,728
Non-resident	441	1,037	2,189	1,141	3,389	1,114	4,372	1,394
Canada	205,879	867	757,925	1,217	1,078,155	1,414	1,291,348	1,638
Total contributions	$178.6		$922.6		$1,524.3		$2,115.5	

Source Special tabulations of income tax data, Revenue Canada, Taxation.

province. In national terms fewer than a quarter million persons who filed income tax returns in 1969 participated in the RRSP program and contributed $178.6 million. By 1975 their numbers rose to over one million, and in aggregate they set aside well over one and a half billion dollars into RRSP accounts. Continuing the sharp upward trend in the following year, more than one and a quarter million tax filers in Canada purchased over $2.115 billion worth of RRSPs. Over this same period the average contribution nearly doubled from $867 in 1969 to $1,638 by 1976.

Within Ontario as in the rest of the country, the response rate to the RRSPs brought increasing numbers into the program over the course of the 1970s. Participation rose considerably from the 89,459 who contributed in 1969 to well over half a million tax filers in 1976 (525,144). Comparable increases were recorded in the other provinces, but by far the largest number of participants were in Ontario. Consistently throughout this period, about 40 per cent of the active contributors in each tax year were in Ontario. Quebec, which was second in terms of numbers, by 1976 had only slightly over one-quarter million persons in the program.

Average contributions by Ontario participants closely followed the national average and usually was well below that of the western provinces, where on average the largest contributions were made. In 1969, for example, Ontario contributors on the average paid $859 into an RRSP, surpassed by Quebec with $867. Of the western provinces only Alberta and British Columbia surpassed this figure with an average of $908 in Alberta and $938 in British Columbia. By 1976 contributions nearly doubled, but the gap between the Ontario average and that of the West widened. Ontario, with an average of $1,612 per RRSP was well below the $1,815 level for Alberta and $1,744 for British Columbia; but surpassing all of these and recording the highest level in the country was Saskatchewan, with average contributions of $1,999. Indeed, through the 1970s, Saskatchewan participants unfailingly surpassed the other provinces in average contribution levels.

Accumulated RRSP Funds in Canada

Increasing contribution levels and rising participation are reflected in a steadily growing flow into RRSP funds. As may be seen in Table 3, what started out to be a trickle of funds in the mid-1950s and early 1960s became a veritable flood by the early 1970s. In the first ten years of their existence from 1958 to 1967, gross contributions into RRSP funds amounted to about half a billion dollars ($547 million). But over the next ten years the accumulated gross inflow swelled to more than $9.6 billion.

In 1977 alone, contributions amounted to well over $2.3 billion, more than double the amount contributed in the first ten years of the program.

Effect of Tax Changes in Ontario

Taxpayer participation in RRSPs appears to be responsive to the level of tax deferment allowable. Historically, each upward adjustment in allowable contribution ceilings has brought increasing numbers of taxpayers into the RRSP market, with a resultant sharp rise in gross contributions. Table 3 clearly shows these benchmarks. After a period of moderate year-to-year increases in gross cash inflows, the pattern was interrupted in 1975 by a sharp rise of some 42 per cent over the previous tax period. This appears to have been in response to a 1965 amendment which increased the contribution ceiling from the lesser of 10 per cent of income or $1,500 for contributors to private pension plans and $2,500 for all others, to 20 per cent of income, but with dollar limits unchanged. The next peak appears in 1972. In that year contribution limits were raised sharply, to the lesser of 20 per cent of eligible income, or $2,500 for private plan contributors and $4,000 for others. At this point gross contributions more than doubled to over $645 million in 1972 from $319 million the previous year. In 1973, the second year in which these higher contribution levels applied, gross RRSP contributions rose by another 43 per cent; they fell back in 1975 to a growth rate of 23 per cent, but still amounted to well over $1.5 billion. The last increase in allowable limits was made in 1976, raising the dollar level to $3,500 for contributing plan members, $5,500 for others. In that year the taxpayers responded by increasing their input into RRSPs by some 39 per cent, bringing the total to a new high of $2.115 billion for a single year. Although the contribution level continues to grow, preliminary figures for the 1977 tax year indicate that another $2.355 billion were placed in RRSPs, for a lower growth rate of 11 per cent. Any conclusion to be drawn from this apparent downward trend in growth rate would be very speculative and premature at this time, since a single observation cannot be construed as indicative of a trend.

It should be emphasized, however, that the trend shown in Table 3 represents only the gross inflow into RRSP accounts and not the net amount that remains for long-term accumulation. Obviously, if the inflow is responsive to tax stimulus, some portion at least must be tax-sheltered funds and therefore subject to withdrawal. Also, over two decades of operation, the program contains some element of matured holdings that must be withdrawn to purchase annuities. The question arises, therefore, how much of the more than $10 billion that streamed through RRSP accounts still remains for long-term accumulation to provide pension income for holders?

Comprehensive data related to total assets held in RRSP funds are not available, but some broad estimates can be made. Fairly complete data of net RRSP holdings by trust companies and mutual funds can be derived from recently published material.(3) The major information gaps are the insurance company RRSP funds which, in practice, represent a relatively small proportion of total RRSP sales. The relative size of

insurance company activity in the RRSP program may be seen in unpublished data from Revenue Canada, which show the number of new RRSP accounts that came into existence in the 1976 tax year. Of the nearly 705,000 new accounts in 1976, less than 180,000 were with insurance companies; in other words, they had about one-quarter of the new business in 1976. Data for these current funds as well as past accumulations are not available, with one minor exception. That is the RRSP component of insurance company segregated funds designed primarily for the private pension industry. Of the total segregated fund assets of well over $3.5 billion in 1977(4) only $200 million were RRSP allocations.

Table 3
Contributions to RRSP Funds in Canada, 1958-1977

	Annual contributions	Annual increase
	(Thousands of dollars)	(Per cent)
1958	19,004	-
1959	20,000(a)	5
1960	27,526	-
1961	34,322	25
1962	40,456	18
1963	46,456	15
1964	57,704	24
1965	81,997	42
1966	100,618	23
1967	118,864	18
1958-1967	546,947	
1968	142,618	20
1969	178,600	25
1970	225,200	26
1971	319,800	42
1972	645,100	100
1973	922,600	43
1974	1,243,700	35
1975	1,524,500	23
1976	2,115,500	39
1977	2,355,000(b)	11
1968-1977	9,672,618	
1958-1977	10,291,565	

a Estimate
b Preliminary figure provided by Revenue Canada, Taxation.

Source Revenue Canada, Taxation, Taxation Statistics, Annual reports for Taxation Years 1958-1976.

Based on these data, it is estimated that by the end of 1977 assets held in RRSP funds, exclusive of those held by chartered banks and insurance companies (other than their limited segregated component) amounted to well over $6 billion. The actual amount undoubtedly is considerably higher; as a conservative estimate the assets could be ex-

pected to amount to between $6 and $7 billion, and probably closer to the $7 billion figure. On this basis, therefore, the actual flow-through of $10 billion paid into the RRSP program since its inception has ended with a 30 to 35 per cent net cash-out. This is not out of line with the cash-out rate one would expect from a program where approximately 80 per cent of the participants indicated that their purchases were made for pension purposes as disclosed in the Commission's survey. The assets remaining in RRSP funds largely represent net savings for pension purposes. As such, they constitute a very substantial pool of funds accumulated as part of personal pension programs. The following sections will look at these discretionary savings in Ontario.

RRSPs IN ONTARIO: HISTORICAL TRENDS

This section will be limited to a review of RRSPs in the 1970s, a period which has seen tremendous growth in numbers and volume of purchases in Ontario as well as in the rest of the country. As noted above, participation in RRSPs has been stimulated by significant changes in maximum contribution levels. Furthermore, as more and more women entered the labour force, increasing numbers participated in the RRSP program, swelling further the funds put aside in this savings vehicle.

Table 4 shows how participation of tax filers in Ontario increased over the 1970s. In aggregate, the proportion of tax filers in Ontario with RRSPs followed closely the national pattern. By 1976, Ontario participants represented 10.7 per cent of all persons who filed a tax return in Ontario, compared with 10.5 per cent for all of Canada.

As in the rest of the country, participation increases sharply with income. At the lower income levels where there is little discretionary income available, participation rates are very low indeed. The major break is at the $10,000 level, from which point increasing amounts of discretionary income become available. This is reflected in the responsiveness of persons at the $10,000 a year and over categories to tax stimulus. As the maximum allowable contributions to RRSPs increase, increasing proportions of the individuals at these income categories participate in RRSPs. At $25,000 and over, for example, about one-third of tax filers in 1969 had RRSPs. By 1973, one year after the first major increase in maximum contribution levels was introduced, the ratio rose to 53 per cent; in the following years it dropped somewhat, and in 1976, after the final rate change was made, 51.5 per cent purchased RRSPs. Over the same period, those at the $10,000-$14,999 income range increased from 7.7 per cent in 1969 to 12.7 per cent in 1973 and remained at just over 12 per cent for the other periods.

The pattern varied considerably between men and women participants. Among men, the proportion of purchasers at $25,000 and over increased from 36 per cent in 1969 to 55 per cent in 1973, then down somewhat to about 54 per cent in 1975 with another small decline to 52 per cent in

Table 4
Proportion of Tax Filers in Ontario Who Contributed to RRSPs,(a) by Sex and Income Class, Selected Years, 1969-1976

Income class	1969			1973			1975			1976		
	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes
(Dollars)						(Per cent)						
Under 2,000	.2	.2	.2	.2	.2	.2	.3	.2	.2	.2	.1	.1
2,000- 2,999	.3	.3	.3	.8	.6	.7	.5	.4	.5	.4	.5	.5
3,000- 3,999	.6	.6	.6	1.0	1.3	1.1	1.1	.8	.9	1.1	.6	.8
4,000- 4,999	1.0	1.0	1.0	1.9	1.4	1.7	1.8	1.2	1.5	1.9	1.5	1.7
5,000- 5,999	1.5	2.5	1.8	2.3	2.9	2.6	1.4	2.2	1.9	2.7	2.7	2.7
6,000- 6,999	1.8	2.6	1.9	3.8	5.7	4.7	3.7	2.9	3.3	3.8	3.0	3.4
7,000- 7,999	2.3	4.2	2.6	5.1	7.4	6.0	4.9	5.1	5.0	3.1	5.1	4.2
8,000- 8,999	2.9	5.8	3.2	6.5	9.5	7.3	5.4	7.8	6.6	7.0	6.7	6.8
9,000- 9,999	3.1	7.6	3.5	7.5	11.5	8.2	5.6	8.3	6.6	6.6	8.2	7.4
10,000-14,999	7.2	13.8	7.7	11.8	20.2	12.7	11.1	15.8	12.1	11.5	14.7	12.4
15,000-19,999	17.2	14.5	17.0	25.5	32.5	26.1	20.8	30.7	21.9	20.0	30.5	21.5
20,000-24,999	24.0	16.2	23.5	38.4	31.3	37.9	35.2	37.2	35.4	30.9	38.9	31.7
25,000 and over	36.3	12.8	34.6	55.3	26.0	53.0	53.8	33.4	52.2	52.1	43.9	51.5
Total	3.2	1.3	2.5	9.4	3.6	7.0	12.2	4.9	9.1	14.1	6.1	10.7

a Includes all persons in Ontario who filed an income tax return whether or not they paid income taxes.

Source Statistics Canada, special tabulations of income tax data.

1976. At all income categories above $10,000 the proportion of women participating in RRSPs increased sharply and remained at a high level throughout the period under review. For example, in the $20,000-$24,999 income category the proportion of women purchasers nearly doubled in 1973 to 31 per cent, up from 16 per cent in 1969. By 1975 it rose to 37 per cent, and by 1976 nearly 39 per cent of the women at this income level had RRSPs. More dramatically, in the $25,000 and over category the proportion rose from nearly 13 per cent in 1969 to almost 44 per cent in 1976. In general terms, therefore, not only were there sharp increases in the proportion of participants, but when related to an increasing labour force, particularly of women workers, these ratios showed an even greater net increase in absolute terms as well.

Ontario RRSP Contributors

This section will examine the growth of RRSPs in Ontario discussed above, translating the proportion of tax filers in the program into real terms, providing some insight into the magnitude of participation in the province. In these terms, the first half of the 1970s saw the same high level of participation in Ontario as in Canada as a whole. In 1969, just before this decade began, more than 89,000 people in Ontario used the facilities of the RRSP, but by the end of the 1976 tax year the figure had gone up to well over half a million persons. Comparable growth occurred in average contributions as well. (See Table 5.)

It has been hypothesized that "a taxpayer's valuation of an 'attractive rate of government subsidy' will be diminished if the allowable contribution is an insignificant portion of assessable income."(5) Taxpayer response has indeed been sensitive to contribution limits. Thus, when the major revisions to the Income Tax Act in 1972 included a significant change in allowable RRSP contribution limits,(6) taxpayer response was reflected not only in a dramatic growth of participation but also in a sharp rise of aggregate and average contributions. These changes stimulated unprecedented taxpayer response not only in terms of participants, but in average contributions as well. From 1971 to 1972 RRSP contributors increased at a phenomenal rate of 82 per cent to total of nearly 272,000, while the average contribution increased to $1,191. Aggressive marketing and increased interest by most financial institutions in attracting this business maintained the growth of RRSP participation at a high rate, though not quite at the same high level as the initial spurt in 1972. Over the past few years participation in Ontario has been growing at an annual rate of about 20 per cent. Additional upward adjustments in the allowable contributions in 1976 failed to materially stimulate participation in Ontario, so that the growth rate remained at 20 per cent as in the previous two years. But the change did bring out more contributions, with the average contribution increasing in the one year between 1975 and 1976 by 15 per cent, nearly double the annual rate of increase in the previous year.

Data on male and female mix of participation in Ontario for 1971 are not available; but notwithstanding this data gap, some general observations can be made. As noted earlier, one factor that has helped sustain a high level of growth has been the increasing participation of women in RRSPs. For example, between 1973 and 1975 the number of men in the program increased by 36 per cent, whereas women increased by 54 per cent. This rate continued; in 1976 the number of men went up by 19 per cent while women rose by 25 per cent.

Age Distribution Patterns in the 1970s

While participation in RRSPs is primarily income related, there are some observable trends in the age distribution of purchasers over recent years. Generally, the proportion tends to be lower at the younger age groups for two main reasons. First, this age group tends to be largely at the lower income scale, and second, young people are usually more concerned with current consumption than saving for the future.

Table 5
Number of Contributors in Ontario and Average RRSP Contributions, by Sex, Selected Years, 1969-1976

	Men		Women		Both sexes	
	Number	Average contribution	Number	Average contribution	Number	Average contribution
1969	71,859	$ 946	17,600	$ 562	89,459	$ 872
1971(a)	-	-	-	-	149,118	909
1972(a)	-	-	-	-	271,602	1,191
1973	246,246	1,303	65,650	868	311,897	1,212
1975	335,826	1,487	101,161	1,133	436,987	1,405
1976	398,219	1,712	126,925	1,296	525,144	1,612

a Separate data for men and women not available for these years.

Source Special tabulations provided by Statistics Canada. Non-published data provided by Revenue Canada, Taxation.

Savings through the RRSP program seems to be concentrated mostly among those in their middle to later working years. By age 60 the proportion with RRSPs tends to start dropping off, with a sharp decline evident at the age 65 level as one would expect, since it follows normal retirement trends.(7) That age is also a time when holders may start to liquidate their RRSPs rather than add to them. Thus, at age 65 and over, the proportion of taxpayers in Ontario buying RRSPs drops sharply and over the years ranges from 2 to 3 per cent. Since these funds must be converted to an annuity in some form by age 71, contributions made by those aged 65 and over are obviously short-term savings, and one would suspect that they are motivated more by tax consideration than pension concerns.

As in all other characteristics, the age pattern for women is different from that for men. Men under 30 are still in the early stages of their working life when they have heavy financial responsibilities supporting growing families, buying and maintaining homes, etc., and so are less likely to have much in the way of discretionary funds for savings. At this age level RRSP purchasers were in fact few. Only 8 per cent of Ontario purchases in 1969 were made by this age group; and over the years the proportion remained low, rising to only 13 per cent of the men in 1976. By contrast, the proportion of women in this age group who bought RRSPs, though still relatively low, increased sharply during the 1970s. The age group 25-29 which alone accounted for the major part of the rise, nearly tripled from 4.9 per cent in 1969 to 12.7 per cent in 1976. In total, women under 30 represented nearly 19 per cent of the women purchasers.

Consistently over the years under review, three-quarters of the men who bought RRSPs were aged 30 to 59, spread more or less evenly among the various age groups (see Table 6). The trend seems to point toward proportionately more of the younger age groups participating as the 1970s rolled on. Thus, in 1969, only 7.6 per cent of the men were aged 30 to 34; by 1976 that group amounted to 12.4 per cent of all male purchasers. By contrast, the 45-49 age group dropped from 17.6 per cent of the total in 1969 to 13.7 per cent in 1976. Similar declines were recorded in the 50-54 and 55-59 age groups.

The distribution for women was spread over a wider age range. By 1976 nearly 30 per cent of the women purchasing RRSPs were under 35 years of age. Another 53 per cent were between 40 and 59. This latter age group remained relatively constant in the proportion of participants over the years, ranging from 66 per cent in 1969 to over 54 per cent in both 1973 and 1975 and down slightly to 53 per cent in 1976.

Contributions in Ontario by Income

As noted earlier, participation in RRSPs is very much a function of income. With a higher income, more discretionary funds are available for savings; this shows up clearly in the income distribution of RRSP participation in Ontario (see Table 7). Very clearly, the concentration is at the higher income levels. However, an examination of changes over recent years reveals some sharp differences in general patterns and overall trends in the distribution of male and female participants in Ontario.

As may be seen in Table 7, participation by men was concentrated among those whose annual incomes were $10,000 or over. In 1969 nearly 62 per cent of the men in Ontario who purchased RRSPs were at these income levels. As the general level of incomes in Canada and Ontario increased over the 1970s and the allowable limits rose, attracting greater taxpayer response, this concentration became even more pronounced. By 1973, nearly 79 per cent of the men were at these income

Table 6
Proportion of Contributors to RRSPs in Ontario, by Age and Sex, Selected Years, 1969-1976

	1969			1973			1975			1976		
	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes
Age not specified	-	-	-	-	-	-	-	-	-	-	-	-
Under 18	.1	.2	.1	.1	.1	.1	-	-	-	.1	-	.1
18-24	2.2	5.0	2.7	3.5	6.5	4.1	3.4	4.5	3.7	3.5	6.1	4.1
25-29	5.8	4.9	5.6	9.1	8.9	9.0	9.9	11.8	10.3	9.8	12.7	10.5
30-34	7.6	5.1	7.1	10.6	9.2	10.3	12.3	8.7	11.4	12.4	10.4	11.9
35-39	11.1	7.6	10.4	10.8	8.6	10.4	11.1	9.3	10.7	12.3	7.4	11.1
40-44	15.8	12.1	15.1	13.9	13.4	13.8	13.1	10.8	12.6	11.5	9.6	11.0
45-49	17.6	19.9	18.1	15.3	11.5	14.5	13.3	15.1	13.7	13.7	14.1	13.8
50-54	15.9	18.8	16.5	15.1	16.6	15.4	14.3	16.8	14.9	12.9	15.5	13.6
55-59	13.3	15.8	13.8	11.6	13.3	12.0	11.3	11.9	11.4	11.9	13.8	12.3
60-64	7.6	9.1	7.9	7.7	10.1	8.2	8.8	8.5	8.8	9.0	7.7	8.7
65-69	2.8	1.4	2.5	2.1	1.8	2.0	2.3	2.5	2.4	2.8	2.6	2.8
70 and over	.2	.1	.2	.3	-	.2	.2	.2	.2	.2	.2	.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total contributors	17,859	17,600	89,459	246,247	65,650	311,897	335,826	101,161	436,987	398,219	126,925	525,144

Source Special tabulations provided by Statistics Canada and Revenue Canada, Taxation.

levels. The proportion continued to rise over the intervening years, and by 1976 it was over 92 per cent of all male participants in Ontario.

Looking at individual income classes in this broad range, the concentration shifts to the higher levels. In 1973, nearly 32 per cent of men with RRSPs were in the $10,000-$14,999 income range, while only 17 per cent had earnings of $25,000 or more. By 1976, there was a distinct shift towards the higher income groups, with the $10,000-$14,999 class dropping to 20 per cent, the $25,000 and over class increasing to 29 per cent, and with smaller upward shifts in the intervening income groups.

Generally, the distribution of women with RRSPs was concentrated at lower income levels, a reflection in part of the fact that women tend to earn less than men. In 1969, slightly over 64 per cent of the women had incomes ranging from $5,000 to $14,999; this rose to 75 per cent in 1973. By 1975, however, as with the men, the concentration shifted toward higher levels so that nearly 81 per cent of the women with RRSPs were earning between $6,000 and $19,999. This ratio dropped slightly to 78 per cent in 1976, but at the same time the proportion of women with incomes of more than $20,000 increased, further emphasizing the shift in participation to persons with higher incomes. In 1976, more than 54 per cent of the women with RRSPs had annual earnings between $10,000 and $20,000 compared with only 21 per cent in 1969.

Table 7
Proportion of RRSP Contributors in Ontario, by Income and Sex, 1969-1976

	1969		1973		1975		1976	
Income class	Males	Females	Males	Females	Males	Females	Males	Females
(Dollars)				(Per cent)				
Under 2,000	.9	6.9	.3	2.1	.3	1.0	.1	.5
2,000- 2,999	.7	3.9	.5	2.4	.2	1.0	.2	.9
3,000- 3,999	1.5	8.0	.6	4.1	.4	1.6	.4	1.0
4,000- 4,999	2.7	9.8	1.1	4.4	.7	2.1	.6	1.9
5,000- 5,999	4.8	15.7	1.4	8.2	.5	3.7	.7	3.2
6,000- 6,999	6.4	10.1	2.5	12.0	1.3	4.7	1.1	3.5
7,000- 7,999	7.9	8.6	3.6	11.6	1.8	7.6	.9	5.8
8,000- 8,999	7.6	7.4	5.1	10.7	2.1	9.5	2.0	7.2
9,000- 9,999	5.9	5.4	6.1	7.7	2.5	7.7	1.9	7.5
10,000-14,999	24.4	16.9	31.8	24.3	25.0	35.0	20.3	34.3
15,000-19,999	14.0	4.2	19.8	7.7	24.8	16.3	25.6	20.0
20,000-24,999	7.4	1.4	10.1	2.4	15.7	5.5	17.3	7.6
25,000 and over	15.9	1.7	17.1	2.6	24.5	4.3	29.1	6.6
Total(a)	100	100	100	100	100	100	100	100

a May not add up to 100 per cent because of rounding.

Source Special tabulations provided by Statistics Canada and Revenue Canada, Taxation.

PROFILE OF RRSP CONTRIBUTORS IN ONTARIO, 1976

This section will discuss the current status of RRSP contributors in Ontario as it had evolved by 1976, the latest year for which comprehensive income tax data are available. Coincidentally, in 1976 another upward revision in the maximum allowable contributions was made increasing the limits to $3,500 for pension plan contributors and $5,500 for those without such contributions, or, as previously, 20 per cent of income, whichever is less. Undoubtedly this change stimulated an increased response; therefore, the year-to-year changes in patterns of participation will be examined in some detail. This section will review the changes as they relate to age, sex, and income. Finally, to round out the profile, this section will also look at RRSP purchases by employer pension plan members, participation by occupational groups, and the extent of taxpayer response to the program in selected locations throughout the province.

Contributors by Age and Sex, 1976

The 1976 amendments to contribution rates brought an increased number of Ontario taxpayers into the RRSP market. This increase was below the record rises in the past, and far below that following the 1971-72 changes; nonetheless, at 20 per cent in aggregate it represented a significant increase over the previous year. More significant, however, were the changes in the components of this increase which affected the pattern and structure of participation in the province.

Changes in the distribution of Ontario purchasers by age and sex show some alteration in overall patterns. Proportionately more women than men entered the RRSP market in 1976. The increase for women over the 1975 level was 25 per cent compared with a 19 per cent rise for men. Looking at the percentage increase from 1975 to 1976 for women alone, a number of interesting changes may be seen (see Table 8). Some of the largest percentage increases occurred among women in younger age groups. Those aged 18-24 increased participation by 72 per cent, the largest growth recorded in the total age structure. Some other large increases occurred in the age categories between 18 and 34. Considerably lower increases were recorded at the middle ages between 35 and 54, while the 55-59 age category showed a 46 per cent rise.

The growth pattern among men was somewhat different. Proportionate increases were distributed fairly evenly among most age categories, with a slight bulge in the 35-39 age group and much greater increases at the older age levels. Specifically, the 65-69 category increased by 44 per cent and the group 70 and over increased by 73 per cent; even with these percentage increases, they represented very small numbers and remained a small proportion, 3 per cent, of the total male contributors to RRSPs in Ontario.

Table 8
Percentage Increase of RRSP Contributors in Ontario, by Age and Sex, 1975-1976

	Men	Women	
		(Per cent)	
Under 18	250	-	
18-24	21	72	
25-29	17	35	
30-34	20	49	
35-39	31	0	
40-44	24	11	
45-49	22	18	
50-54	8	16	
55-59	25	46	
60-64	20	13	
65-69	44	29	
70 and over	73	45	
Total	19	25	20(a)

a Both Sexes.

Source Derived from non-published material provided by Revenue Canada, Taxation.

Contributions by Age, 1976

Turning to contribution patterns in Ontario during the 1976 tax year, it is evident that as participants approach retirement age they tend to put more and more aside in RRSP funds (see Table 9). In aggregate about one-third of the Ontario RRSP contributors were below age 40, and as a group their average contribution was well below the provincial average of $1,612 in 1976. Starting at age 40 all higher age categories showed contributions greater than the provincial average, and at each succeeding age category the difference increased. Those in the 40-44 age group averaged $1,686, only slightly above the provincial level. This rose to $1,752 in the next category, age 45-49, and to $1,797 for the age group 55-59. Just prior to age 65, when most retirements in Canada occur, contributors in the age category of 60-64 paid an average of $2,067 into RRSP funds.

In virtually all age categories, with the single exception of those aged 25-29, men on the average contributed more than women, so that at the provincial level the average for men at $1,712 in 1976 was well above that for women at $1,296. As noted for aggregate trends, the pattern for men consistently showed an increase in average contributions as age increased. While the overall trend for women was the same, there were some breaks. Specifically, the average dropped slightly at age 30-34 and showed a more pronounced drop for the age group 60-64.

Table 9
Number of Contributors to RRSPs in Ontario, by Age and Sex, Showing Total and Average Contributions, 1976

	Male			Female			Both sexes		
	Contributors (Number)	Total contributions (Thousands of dollars)	Average contribution (Dollars)	Contributors (Number)	Total contributions (Thousands of dollars)	Average contribution (Dollars)	Contributors (Number)	Total contributions (Thousands of dollars)	Average contribution (Dollars)
Under 25	14,919	9,879	698	7,748	4,588	592	21,897	14,467	661
25-29	38,874	38,482	990	16,076	17,521	1,090	54,950	56,003	1,019
30-34	49,281	68,967	1,399	13,140	13,401	1,020	62,421	82,368	1,320
35-39	48,867	75,850	1,552	9,449	11,294	1,195	58,316	87,144	1,494
40-44	45,607	79,304	1,739	12,137	18,040	1,486	57,744	97,344	1,686
45-49	54,703	103,038	1,884	17,906	24,149	1,349	72,609	127,187	1,752
50-54	51,566	98,749	1,915	19,697	28,692	1,457	71,263	127,441	1,788
55-59	47,260	92,085	1,948	17,493	24,295	1,945	64,753	116,380	1,797
60-64	35,725	79,791	2,205	9,738	15,179	1,559	45,463	93,970	2,067
65 and over	12,187	35,624	2,923	3,541	7,346	2,075	15,728	42,970	2,732
Total	398,219	681,767	1,712	126,925	164,506	1,296	525,144	846,273	1,612

Source Derived from non-published data provided by Revenue Canada, Taxation.

Contributors by Income, 1976

As noted earlier, participation in RRSPs is most responsive to income levels. The percentage change from 1975 to 1976 is shown in Table 10. Among women the numbers at most lower income levels declined. The sharpest drops were for those earning under $2,000 which went down by 40 per cent from the 1975 levels, while at $3,000-$3,999 the numbers went down 24 per cent. Increases were centred mainly at the higher income levels, $9,000 and over, reflecting the continued concentration of participation at these levels as discussed earlier. Extremely large rises occurred in the $15,000-$19,999 income category which went up by over 50 per cent while at the next two highest levels the growth was 75 per cent and 94 per cent respectively.

Table 10
Percentage Change of RRSP Contributors in Ontario, by Income and Sex, 1975-1976

Income class	Percentage change		
	Men	Women	
(Dollars)			
Under 2,000	-40	-40	
2,000- 2,999	-27	17	
3,000- 3,999	-10	-24	
4,000- 4,999	0	11	
5,000- 5,999	66	9	
6,000- 6,999	-6	-8	
7,000- 7,999	-40	-4	
8,000- 8,999	9	-6	
9,000- 9,999	-12	23	
10,000-14,999	-4	23	
15,000-19,999	22	54	
20,000-24,999	31	75	
25,000 and over	41	94	
Total	19	25	20(a)

a Both sexes

Source Derived from unpublished data from Revenue Canada, Taxation.

Among men in most income categories below $15,000, the numbers declined, rather sharply at some levels. Men with incomes below $2,000 and those who earned between $7,000-$7,999 both dropped by 40 per cent. The two main exceptions to this general trend were at the $5,000-$5,999 and $8,000-$8,999 ranges - the first rising sharply by 66 per cent and the second less dramatically at only 9 per cent. While the income categories over $15,000 did not rise nearly as sharply as for women in these income categories, they nevertheless showed substantial increases, fur-

ther emphasizing the shift towards greater concentration of participants in the higher income levels.

Table 11 summarizes the effect of these changes, showing the distribution in real and relative terms of contributors in Ontario by sex and income as well as their average contribution in 1976. At most income levels, the average contribution was well below the provincial average of $1,612. Only at the higher income levels did it go above the provincial average. Even at the top level of $25,000 and over, contributors on the average put aside $2,849, well below their maximum allowable limit.

Looking behind the average, the last income range was expanded so as to see how the pattern changes within this broader income spectrum. Within these ranges participants were concentrated in the $25,000-$49,999 income category; the 103,884 persons with this level of income on the average contributed $2,544 to their RRSP programs. At the higher levels, $50,000-$99,999 and $100,000 and over, contributions averaged $4,328 and $4,890 respectively, though the numbers in each category were considerably smaller. It is interesting to note that only at these latter two income levels did the average contribution approach the maximum allowable limit.

The average contribution for women at $1,296 was well below the provincial average for both sexes and that of men only. However, at the upper mid-income categories women tended to contribute more to RRSPs than did men. In part this may reflect their proportionately lower participation rate in private pension plans, hence a larger margin for tax deferred contributions. Although far fewer women than men participants had earnings of $25,000 or over, nevertheless their average contribution tended to be almost equal to that of men at $2,868 - some $20 above the male average.

Dual Contributors in Ontario, 1976

Although the main objective of the RRSP program was to provide a tax-induced private sector retirement savings facility for individuals outside of pension plans, it did not exclude other taxpayers. Thus, even those individuals who were active, contributing members of employer pension plans could also participate, within certain limits, in this individual-oriented program. Ever since their introduction, RRSPs have attracted large and growing numbers of pension plan members who presumably sought to supplement their employment pensions with this form of individual pension savings. For ease of reference, these individuals will be referred to in this study as "dual contributors," that is, contributors to both RRSPs and employment pension plans.

The immediate tax relief allowable under the RRSP program in effect is a government subsidy. Furthermore, a comparable subsidy is also given to the individual who contributes to a private pension plan. Thus

Table 11
Ontario Tax Filers Who Contributed to RRSPs, by Income and Sex, Showing Average Contribution, 1976

	Men			Women			Both sexes		
Income class	Number	Per cent	Average Contribution	Number	Per cent	Average Contribution	Number	Per cent	Average Contribution
(Dollars)			(Dollars)			(Dollars)			(Dollars)
Under 2,000	556	.1	641	633	.5	328	1,189	.2	459
2,000- 2,999	605	.2	346	1,200	.9	474	1,805	.3	431
3,000- 3,999	1,399	.4	218	1,208	1.0	423	2,607	.5	311
4.000- 4,999	2,315	.6	412	2,369	1.9	328	4,684	.9	370
5,000- 5,999	2,932	.7	502	4,072	3.2	535	7,004	1.3	522
6,000- 6,999	4,426	1.1	626	4,421	3.5	619	8,667	1.7	622
7,000- 7,999	3,667	.9	658	7,364	5.8	715	11,031	2.1	696
8,000- 8,999	7,789	2.0	707	9,089	7.2	762	16,878	3.2	736
9,000- 9,999	7,393	1.9	799	9,559	7.5	953	16,952	3.2	886
10,000-14,999	80,748	20.3	976	43,523	34.3	1,240	124,271	23.7	1,068
15,000-19,999	101,831	25.6	1,269	25,414	20.0	1,552	127,244	24.2	1,325
20,000-24,999	69,046	17.3	1,803	9,671	7.6	1,935	78,717	15.0	1,820
25,000 and over (See below)	115,693	29.1	2,848	8,402	6.6	2,868	124,095	23.6	2,849
Total	398,219	100.0	1,712	126,925	100.0	1,296	525,144	100.0	1,612
25,000 and over									
25,000-49,999	-		-	-		-	103,844		2,544
50,000-99,999	-		-	-		-	16,981		4,328
100,000 and over	-		-	-		-	3,230		4,490
Total $25,000 and over	-		-	-		-	124,095		2,849

Source Derived from unpublished data prepared by Revenue Canada, Taxation.

the extent of the subsidy varies sharply between that available to the dual contributor who can claim immediate tax relief under both programs and the participant whose only allowable pension saving is the RRSP.

A dual contributor has a two-phased tax benefit - one related to contributions to the employer's plan and the other to the RRSP. The tax relief allowable under both these plans in effect is a government subsidy.(8) To make this subsidy more equitable, dual contributors are limited to combined contributions amounting to the lesser of 20 per cent of income or $3,500, whereas those not contributing to a private plan may place up to $5,500 in RRSPs (according to the latest amendment effective in 1976).

Of the 525,000 persons in Ontario reporting RRSP contributions in the 1976 tax year, nearly 40 per cent were dual contributors. The 60 per cent with RRSPs only numbered some 318,000. Although in aggregate there was a 60-40 split, the ratio varied widely according to income levels. At the lower income levels, i.e. below $8,000, the ratios of those with only RRSPs ranged from 99 per cent for the very low levels to 90 per cent at the $7,000-$7,999 range, dropping sharply to 70 per cent at $8,000. At the higher income ranges where most of the dual contributors were concentrated, the proportion with RRSPs only dropped to a range of 53 to 56 per cent at the $15,000 to $25,000 and over levels. This pattern had a direct effect on the average RRSP contribution in the various income ranges.

Table 12 compares the average contribution for those with RRSPs only with all RRSP contributors in Ontario in 1976. Since the maximum allowable contribution limit is higher for those without active financial participation in employer pension plans, their average contribution was generally much higher than the average for all Ontario RRSP contributors. At the lower income scale, below $8,000, there were very few dual contributors to deflate the figures. The averages differed only marginally, and in two or three income ranges the overall average was even slightly higher than that of contributors with RRSPs only. The significant changes appear at the higher levels where increasing proportions of RRSP holders were dual contributors, so that the overall average fell significantly below that of RRSP-only purchasers.

As income increases, the amount set aside for pension savings increases as well. Undoubtedly, some individuals at all income levels contributed up to the maximum allowable, but their numbers obviously were too few to bring the averages closer to the maximum. Thus, even the highest level - those with incomes of $25,000 and over - on average contributed $3,732 into an RRSP, well below the $5,000-$5,500 permissible at this income range. Indeed the average contribution for most income categories ranged from 8 to 10 per cent of income.

A somewhat different pattern emerges for dual contributors (see Table 13). Their RRSP contributions are of course considerably lower,

if for no other reason than their lower basic allowable limit. Generally speaking, however, the combined average contribution to RRSPs plus employer's pension was considerably higher than for tax filers whose sole tax-deferred savings consisted of RRSPs. At the lower extremities of the income scale, combined pension savings of dual contributors were substantially lower at most ranges below $7,000. From this point their total savings allocations in each succeeding income class were considerably higher, with the single exception of the top income range of $25,000 and over where dual contributors averaged $3,108 compared with $3,732 for those who had RRSPs only.

Dual contributors in general paid out a higher proportion of their incomes for both savings programs although they were still far below the 20 per cent maximum allowable. The proportion of income on the average was consistently higher at most income classes for dual contributors. At most income levels the proportion paid out for both RRSPs and employer pensions ranged from 11 to 14 per cent although it fell below this range for some of the lower income classes. By contrast, tax filers with only RRSP contributions on the average put aside 8 to 10 per cent of their income into these savings.

Table 12
RRSP Contributors in Ontario Who Made No Contribution to a Private Pension Plan, Showing Average RRSP Contribution and Average Contributed by All RRSP Contributors in the Province, 1976

Income class	RRSP only as percentage of of all RRSP	RRSP only		Average contribution by all RRSP contributors
		Contributors	Average contribution	
(Dollars)	(Per cent)	(Number)	(Dollars)	(Dollars)
Under 2,000	97	1,052	465	459
2,000- 2,999	97	1,758	438	431
3,000- 3,999	99	2,626	310	311
4,000- 4,999	92	4,316	348	370
5,000- 5,999	96	6,721	537	522
6,000- 6,999	93	8,037	645	622
7,000- 7,999	90	9,905	688	696
8,000- 8,999	70	11,883	771	736
9,000- 9,999	72	12,214	954	886
10,000-14,999	65	80,836	1,133	1,068
15,000-19,999	53	67,622	1,461	1,325
20,000-24,999	54	42,294	2,066	1,820
25,000 and over	56	69,184	3,732	2,849
Total	61	318,488	1,809	1,612

Source Derived from Revenue Canada, Taxation data.

Table 13
Dual Contributors in Ontario by Income, Showing Average Contribution to Each of Private Pension and RRSP Plus Combined Contribution Average, 1976

Income class	Contributors	Average contribution to private pensions	Average RRSP contribution	Average combined contribution to RRSP plus private pension
(Dollars)	(Number)	(Dollars)	(Dollars)	(Dollars)
Under 2,000	32	89	266	355
2,000- 2,999	47	39	180	219
3,000- 3,999	36	63	380	444
4,000- 4,999	368	172	448	620
5,000- 5,999	289	197	153	350
6,000- 6,999	636	152	336	488
7,000- 7,999	1,130	264	769	1,035
8,000- 8,999	4,998	234	654	887
9,000- 9,999	4,741	326	709	1,035
10,000-14,999	43,444	495	948	1,443
15,000-19,999	59,584	743	1,171	1,914
20,000-24,999	36,424	960	1,533	2,493
25,000 and over	54,924	1,372	1,736	3,108
Total	206,656	868	1,307	2,175

Source Derived from Revenue Canada, Taxation data.

Participation of Ontario Tax Filers by Occupation

Self-employed professionals and business proprietors most closely represent the self-employed components of the labour force for whom the RRSP program was originally designed. Among these occupational categories the degree of participation is relatively high. The highest is found in the professional categories (see Table 14). In aggregate, slightly over 53 per cent contributed to an RRSP in 1976. Within the group the proportions ranged widely from a participation rate of 81 per cent for doctors to around 27 per cent for entertainers and others. Business proprietors participated to a much lesser degree with just over 16 per cent contributing to an RRSP. Presumably, RRSPs play a relatively small role in pension planning for this occupational group. For many, the perpetuation of their business enterprises represents the primary intended source of support for their later years.

Similar comments apply to property owners and investors. Their marginal participation in RRSPs suggests that they too look upon the program only as a supplement. Their planning revolves mainly around

their investments and properties as the primary source of savings for old age.

Low participation for employees may be attributable to a combination of factors. Many employees, including those in both the private and public sectors, are members of employer pension plans. This of course is not necessarily a deterrent to purchases of RRSPs, as is clear from the incidence of "dual contributors" discussed earlier. Nevertheless, many members of employer plans do not supplement their pensions with RRSPs. No doubt a cogent deterrent is the relatively low income levels of many, leaving them with little if any discretionary income for additional savings.

Table 14
Participation in RRSPs of All Tax Filers in Ontario, by General Occupational Groups, 1976

Occupation	RRSP participants	All tax filers(a)	Participants to tax filers
			(Per cent)
Self-employed doctors	8,606	10,615	81.0
Self-employed lawyers	3,600	5,708	63.1
Self-employed dentists	2,165	2,735	79.2
Self-employed engineers	532	1,027	51.8
Self-employed accountants	1,819	2,738	66.4
Entertainers and artists	1,879	6,813	27.6
Other professionals	2,816	10,717	26.3
Total professionals	21,417	40,353	53.1
Farmers	9,391	65,823	14.3
Fishermen	30	374	8.0
Business proprietors	26,718	164,307	16.3
Salesmen	3,409	12,484	27.3
Property owners	3,066	35,448	8.6
Investors	9,702	241,218	4.0
Pensioners	5,460	504,828	1.1
Employees	441,163	3,584,828	12.3
Unclassified	4,788	283,646	1.7
Total	525,144	4,887,996	10.7

a Includes not only taxpayers but all persons in Ontario who filed an income tax return in 1976, whether or not they paid any income tax.

Source Derived from data provided by Revenue Canada, Taxation.

Translating these occupational patterns into dollar terms, Table 15 shows the total and average contributions in 1976 made by broad occupational groups. Business employees on average contributed $1,544 to RRSPs, well above the levels for teachers, institutional and government

employees. The latter groups by and large were contributing members of employer pension plans and as such had a much lower limit to their contribution levels. Although some of the business employees no doubt were also covered by private plans, most of these were in non-contributory plans and to a larger extent, many probably were outside of a private plan altogether. These factors would account for their higher average contribution.

Table 15
Participation in RRSPs in Ontario and Average Contribution by General Occupational Groups, 1976

Occupational group	Participants	Total contributions (Thousands of dollars)	Average contribution (Dollars)
Business employees	306,434	473,287	1,544
Teachers and institutional and unclassified employees	62,608	80,327	1,283
Government employees	72,121	90,040	1,248
Total farmers and fishermen	9,421	19,677	2,089
Total professional	21,417	80,174	3,743
Total salesmen	3,409	7,133	2,092
Total businessmen	26,718	48,693	1,822
Total financial	12,768	25,262	1,979
Other and unclassified	10,248	21,680	2,116
Total	525,144		

Source Derived from data provided by Revenue Canada, Taxation.

Professionals who recorded the highest participation rate in 1976 also on the average contributed the highest amount at $3,743. Their contributions were more than double the provincial average. Also among the highest contributors were farmers and fishermen at $2,089 and salesmen at $2,092.

Contributors and Contributions in Selected Ontario Localities, 1976

Table 16 provides some indication of taxpayer response to the RRSP program in selected areas of Ontario, showing the number of persons who in 1976 contributed to RRSPs, as well as their total and average contributions. About 57 per cent of the contributors were concentrated in seven centres, namely Hamilton, Kitchener-Waterloo, London, Mississauga, Ottawa, Toronto, and Windsor, with the largest numbers in Ottawa and Toronto.

Average contributions ranged from a low of $1,206 in Stratford to a high of $1,967 in Owen Sound. At the upper end of the scale, Toronto

Table 16
Contributors, Total and Average Contributions to RRSPs, by Selected Localities in Ontario, 1976

City	Contributors (Number)	Total contributions (Thousands of dollars)	Average contribution (Dollars)
Barrie	2,393	3,427	1,432
Belleville	2,136	3,459	1,619
Brampton	3,801	4,908	1,291
Brantford	5,206	7,208	1,385
Brockville	1,919	2,644	1,378
Cambridge	3,956	5,253	1,328
Chatham	3,855	5,346	1,387
Cornwall	2,730	3,901	1,429
Guelph	5,024	7,490	1,491
Hamilton	22,593	34,907	1,545
Kingston	5,693	8,830	1,551
Kitchener-Waterloo	14,842	21,843	1,472
London	18,266	30,908	1,692
Mississauga	16,341	25,871	1,583
Niagara Falls	3,776	5,721	1,515
North Bay	3,256	4,350	1,336
Orillia	1,596	2,800	1,754
Oshawa	6,576	10,205	1,552
Ottawa	36,024	60,691	1,685
Owen Sound	1,636	3,218	1,967
Pembroke	943	1,512	1,603
Peterborough	4,301	6,314	1,468
Port Colbourne	1,276	2,170	1,701
St. Catharines	9,917	17,297	1,744
St. Thomas	1,645	2,229	1,355
Sarnia	6,018	10,379	1,725
Sault Ste. Marie	5,219	7,341	1,407
Stratford	2,341	2,823	1,206
Sudbury	6,336	11,622	1,834
Thunder Bay	6,392	10,025	1,568
Timmins	1,282	2,186	1,705
Toronto	176,910	303,406	1,715
Welland	2,699	3,855	1,428
Windsor	17,092	27,631	1,617
Woodstock	1,844	2,477	1,343
Other areas	119,310	171,191	1,435
Total	525,144	846,273	1,612

Source Derived from unpublished data provided by Revenue Canada, Taxation.

participants on the average paid $1,715 into RRSPs; and considerably higher, those in Sudbury averaged $1,834. In total, there were twelve centres in Ontario where contributions were above the provincial average of $1,612.

SUMMARY

In summary, it would appear that the RRSP program has become an important element of the pension savings system in Ontario and embraces a significant number of residents in the province. While undoubtedly some of the funds channelled into RRSPs are placed there as tax shelter, by far the greatest proportion is intended for long-term savings to provide income support on retirement. This is corroborated not only by the Commission's study that showed most participants planned to use their savings for retirement, but also by the fact that a high proportion of funds placed in RRSPs since their inception are still being accumulated and have not been liquidated.

It is evident that RRSPs to a large extent are used as a supplement to employment pension accumulations. At least 40 per cent of Ontario participants also contribute to an employment plan, and an additional proportion may be covered by a non-contributory plan. Nevertheless, for a significant number of participants the RRSP represents the primary formal, tax-induced savings program for their old age. Among professionals, particularly, a very high proportion use this means of savings.

Participation is very responsive to the allowable contribution levels. As the limits increase, the numbers of contributors and their average contribution increase. After a rather indifferent beginning, it was only after the increased contribution levels - in 1972 and again in subsequent years - that the real flood into RRSP funds began.

Generally the average contribution tends to be well below the maximum allowable at most income levels. That indicates that in most income classes individuals have a limited amount of discretionary income that they feel free to place into this form of savings. The only exception is at the very high income levels of $50,000 per year and over, when individuals contribute amounts closely approaching the maximum allowable. Nevertheless, by 1976 in Ontario alone, well over half a million participants contributed more than $846 million into RRSP funds.

Generally speaking, increased participation was more pronounced by women than by men. Over the 1970s particularly, more and more women have turned to RRSPs as a form of savings. The proportionate year-to-year increases have been larger among women than for men. Nevertheless, because of the prevailing earnings differential women tended to have a lower average contribution than men.

The data show that as people approach retirement their average RRSP contributions increase. Thus, the highest average contributions were made by persons age 40 and over, with each succeeding age group contributing more than the preceding one; and in all cases their contributions were well above the provincial average (see Table 9). There were some exceptions to this general pattern among women participants. Unlike the men, women aged 60 to 64 showed a sharp drop in their average contribution, but at $1,559 it was still well above the provincial average for women, $1,296.

Finally, participation in RRSPs is most responsive to income. As the maximum allowable limits increased the response was greater among those with higher incomes. Consequently, the concentration of participants at the higher income levels became more pronounced over time. By 1976, over 86 per cent of those in Ontario who contributed to an RRSP had incomes of $10,000 per year or more and nearly two-thirds had earnings ranging from $15,000 to $25,000 or over.

In a broader context, the RRSP experience sheds some light on individual response to a voluntary pension program. To some extent it answers the question of how and to what degree individuals would assume personal responsibility for their own systematic pension savings to create a broadly based voluntary pension.

It is evident from this study that, if left to individual choice, pension saving would be restricted largely to higher income groups. Those most in need, that is, the large numbers in the lower income categories, would not and, in most cases, could not participate simply because they have little or no surplus money available after taking care of their basic needs. Inducements to extend the participation base cannot be provided through the tax mechanism. Indeed, RRSP trends show that tax inducements merely attract high income participants and tend to increase the concentration of participation at the high income levels, almost completely bypassing those in the lower income groups. Consequently, the response rate to and the pattern of participation in RRSPs casts some doubt on whether a broad-based pension program can be provided by a voluntary system alone.

NOTES

(1) S.C. 1957, c. 29, s. 17.

(2) Robert N. Schoeplein, "Taxpayer Participation Under the Registered Retirement Savings Program," Canadian Journal of Economics and Political Science, May 1966, p. 229.

(3) Statistics Canada, Financial Institutions, Cat. 61-006, Quarterly.

(4) Statistics Canada, Trusteed Pension Plans, Financial Statistics 1977, Cat. 74-201, Appendix B, p. 59.

(5) Schoeplein, "Taxpayer Participation," p. 223.

(6) The contribution level was increased to the lesser of 20 per cent of income or $2,500 for private plan contributors and $4,000 for others, up from $1,500 and $2,500 respectively.

(7) The most common retirement age in private pension plans is 65, although in some plans it is age 60. See Statistics Canada, Pension Plans in Canada, 1976, p. 46.

(8) Dual contributors also have a non-taxable benefit from their employer's commitment to the pension plan.

A Study of Private Pensions in Ontario

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August 29, 1979

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SUMMARY

Within the context of the private pension system in Ontario, three basic plan designs (two defined benefit plans, one based on career-average earnings and one on last five years' average earnings, and a money purchase plan) are examined under various economic assumptions and vesting rules, for employees with different mobility characteristics and periods of participation in the labour force. The analysis is based on probabilistic models designed to characterize the ultimate benefit to be derived by a typical employee (or by a group of similar employees) from his or her career membership in pension plans. The ensuing pension costs are also modelled and computed by an adaptation of the projected benefit costs method to lifetime pension benefits. The results obtained constitute a detailed assessment of the basic plan types in use in Ontario on the one hand, and of several vesting rules being suggested in different circles as more liberal alternatives to the current statutory minimum provision of 45 and 10 on the other hand.

1. INTRODUCTION

Recent discussion of the private pension system in Ontario has centred on the possible consequences of inflation, portability, and more liberal vesting rules than those brought about by the Pension Benefits Act of 1965. Under this act, all pension plans were required, as a minimum, to adopt the 45 and 10 rule which calls for full vesting after 10 years of service and attained age 45. The act, which was followed by the federal government and five other provinces, served as a major impetus to the liberalization of vesting rules throughout Canada.

Evidently, further liberalization will generally increase pension benefits and costs. On the other hand, some observers maintain that moderate improvements will not substantially reduce the proportion of retired persons with little or no pension income. It is also argued that earlier vesting might prove to be ineffective for members of contributory defined benefit plans whose own contributions may purchase most of the benefits creditable to their younger years. Discussion of these and other issues in Ontario and elsewhere remains mainly speculative, however. Both actuarial and economic analyses of the impact of pensions on income distribution at retirement, on capital accumulation, mobility of labour, and efficient allocation of labour have been mostly plan oriented (or firm oriented) without an appropriate framework for integration throughout the working lives of individuals.

In this paper, we report on the applications of a methodology, recently developed by the authors, to private pensions in Ontario. The methodology is contained in Appendix A. The overall objective is to characterize, by way of a number of statistical measures, the ultimate benefit to be derived by a group of similar employees from their career membership in pension plans, as a function of vesting rules, termination

rates, periods of employment, types of plan, and economic assumptions. A more specific objective is to provide a comprehensive assessment of the basic types of plans in use in Ontario on the one hand, and various more liberal vesting rules being suggested in different circles as replacements for the 45 and 10 rule on the other. For example, what are the relative virtues and limitations of career average plans, final earnings plans, and money purchase plans from the points of view of the three economic agents involved in the pension system: employees, employers, and governments? What are the incremental benefits to workers and costs to employers and the economy associated with a given liberalization in vesting rules? How would these costs and benefits vary with termination rates, periods of employment, and alternative ages of retirement? What are the degrees of sensitivity of different plan types and vesting rules to rates of termination and periods of employment? What are the income distributive effects of different vesting rules; are some rules more equitable than others in terms of the distribution among the retired population of the "pension wealth?" What is the impact of inflation on benefits and costs, especially in relation to different plan types?

In what follows, we provide answers to these and similar questions in the context of the private pension policy in Ontario. Section 2 is devoted to the scope of applications and data used. The results are presented and discussed in section 3, followed by conclusions in section 4.

2. DATA AND SCOPE

The study was undertaken in three interrelated phases: pensionable service, pension benefits, and pension costs. In each phase, a large number of scenarios were constructed and investigated with the results obtained in one phase being used for the design of the following phase. Scenarios were constructed through different plan types, rates of termination, periods of employment, vesting rules, and economic assumptions.

Plan Types

Three different plan designs were considered: a defined benefit plan based on career-average wages and 1 per cent benefit level (abbreviated CA), a defined benefit plan based on last five years' average wages and 1 per cent benefit level (5Y), and a money purchase plan with 6 per cent rate of contribution (MP).(1)

In most cases all three plans were analyzed as contributory and non-contributory. In the former case, the employee contributions were taken as 2.5 per cent in defined benefit plans and 3 per cent in the MP plan. In contributory defined benefit plans, when one terminates before vesting, or dies before or after vesting, it was assumed that one gets the return of contribution plus interest at 3 per cent, 4 per cent, or 6 per cent depending on the economic assumptions being used. (The economic

assumptions are discussed below.) In the contributory money purchase plan, it was assumed that one receives the fund rate of interest whether terminating or dying prior to retirement. In addition, in contributory plans, when one terminates after vesting, one's benefit was computed as the greater of the accrued pension or what the accumulated contributions would buy.

Periods of Employment

Four different entry-retirement age combinations were considered: 20-60, 20-65, 25-60, and 25-65. For entry ages 20 and 25, years of entry into the labour force were taken as 1980 and 1985, respectively. The last years of employment were, therefore, 2019 for retirement age 60 and 2024 for retirement age 65. In all cases, benefits were computed as fractions of the 2024 wages with actuarially reduced annuities for retirement age 60.

Vesting Rules

Vesting rules considered in the study have been the following:

1. Full vesting at attained age 45 with 10 years of service (45 and 10).
2. Full vesting after 10 years of service (service 10).
3. Full vesting at attained age 40 with 5 years of service (40 and 5).
4. Full vesting after 5 years of service (service 5).
5. Full vesting when the combination of attained age and length of service equals 50 with at least 1 year of service (rule 50).
6. Full vesting when the combination of attained age and length of service equals 45 with at least 1 year of service (rule 45).
7. Full vesting after 1 year of service (service 1).

As mentioned earlier, the first rule is the current statutory minimum in Ontario. The other six represent liberalization of varying extent. They all were of interest to the Royal Commission as alternatives that have been suggested by or discussed in various circles. The last rule was incorporated in the study to serve as an additional basis of comparison.

Termination Rates

Three different termination rate schedules were used in the study: low, medium, and high (see Appendix B).(2) These schedules are fully select in that the rates of termination depend on both attained age and duration of employment. As verified by the source, these schedules are representative of the low, medium, and high mobility sectors of the covered labour force in Ontario.

FIGURE 1. Expected Tenure at Different Ages

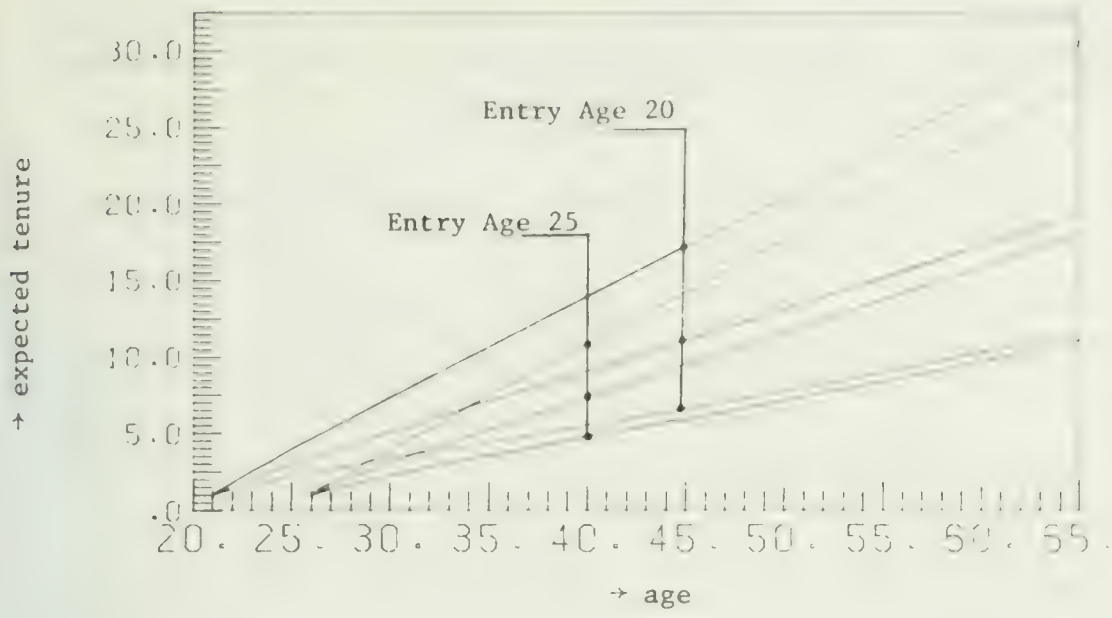
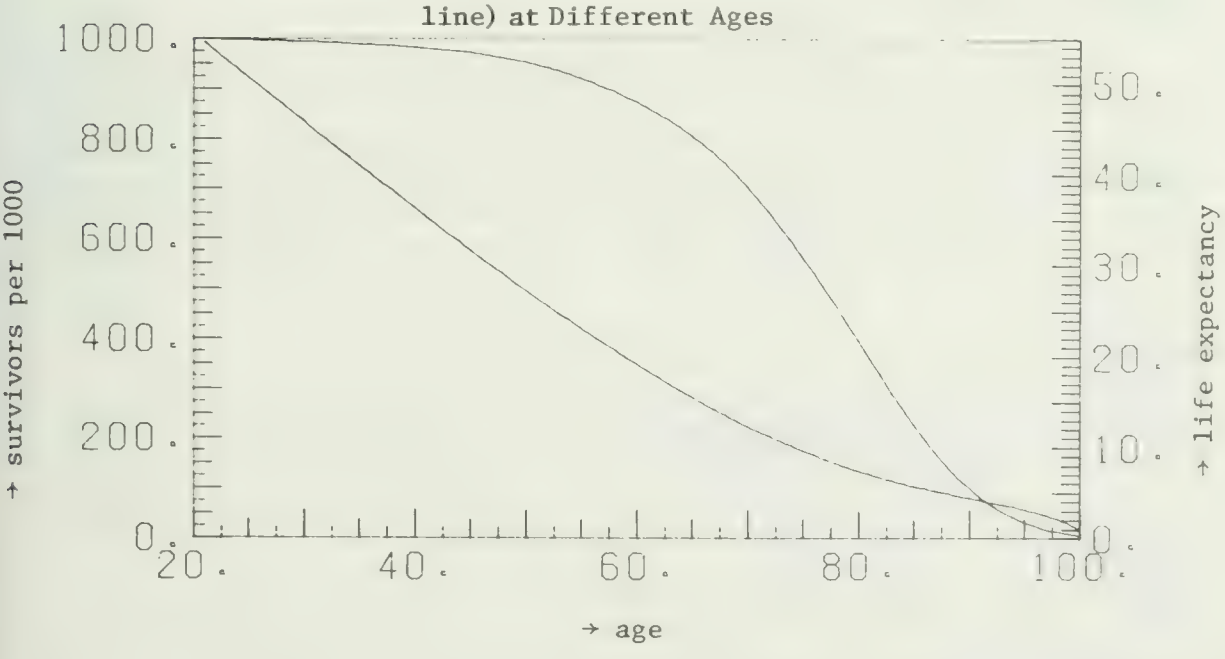


FIGURE 2. Number of Survivors per 1000 at Age 20 (top line) and Life Expectancy (bottom line) at Different Ages



For entry ages 20 and 25, expected tenure at different ages is presented in Figure 1, as computed from low, medium, and high termination rate schedules. It is seen that the expected tenure increases linearly with age in all cases. Also, as implied by the termination rate schedules used, expected numbers of job changes and expected lengths of completed service are given in Table 1.

Table 1
Expected Number of Job Changes (Expected Length of Employment) under Different Rates of Termination

Termination rates	Periods of employment			
	20-60	20-65	25-60	25-65
Low	3.0 (13.5)	3.1 (14.7)	2.8 (12.7)	2.9 (14.0)
Medium	6.6 (6.0)	7.0 (6.5)	5.9 (6.0)	6.2 (6.4)
High	12.3 (3.3)	13.1 (3.4)	10.6 (3.3)	11.4 (3.5)

Mortality Rates

Mortality rates used in the study were based on the 1971 Group Annuity Mortality (GAM) Table developed by the Society of Actuaries as related to the actual experience of pension plan members.(3) As computed from these rates, number of survivors at different ages per 1,000 at age 20, and life expectancy at different ages are given in Figure 2. Note, in particular, that the life expectancies at ages 60 and 65 are 19.23 and 15.57, respectively. Mortality rates used in the study are also given in Appendix C.(4)

Economic Assumptions

Economic assumptions used in the study regarding the rates of inflation, return on investment, and wage growth are given in Table 2.(5) The rate of return estimates are based on the long-term government bond index (10 years and over) adjusted to Government of Canada bonds with terms of twenty or more years. Additional scenarios were subsequently investigated using .6 higher rates of return than those in Table 2.

Table 2
Economic Assumptions

	Rate of inflation			Total rate of return			Real wage growth
	Low	Most probable	High	Low	Most probable	High	
1980-84	4.5	5.5	7.5	6.9	7.9	9.9	1.8
1985-89	4.0	5.0	7.0	6.6	7.6	9.6	2.0
1990-	3.0	4.0	6.0	5.4	6.4	8.4	2.1

Based on recent studies in Canada and the United States(6), the wage profile was taken as the following:

Age	20	25	30	35	40-65
Wage Index	.40	.65	.85	.93	1.00

Some wage functions relevant to career average and money purchase plans are presented in Figure 3. Essential to money purchase plans is the projection of wages at different ages invested until age 65, expressed as a fraction of the wage at 65. Evidently, the rate of inflation has no impact on the wage function so expressed. In contrast, wage profiles depicted in Figure 3 (which are significant in computing pension benefits and costs in career-average plans) are affected by the rate of inflation.(7)

Finally, costs at different ages of a unit annuity starting at age 60 or 65 (given survival until 60 or 65) are given in Figure 4 as a function of the rate of inflation. The input data summarized in this figure are similar to those used in establishing benefits and costs in money purchase plans. Annuity costs relevant to defined benefit plans are given in Table 3 for alternative ages of retirement under different economic assumptions, including .6 higher rates of return than those shown in Table 2.(8) All the annuity costs were computed using the adjusted GAM Table mortality rates. Costs using Male Life Table Canada rates are also included in Table 3 under the most probable economic scenario for purposes of comparison.

Table 3
Cost of a $1 Annuity Purchased at Alternative Ages of Retirement under Different Economic Assumptions (Entries in parentheses are computed using Male Life Table Canada mortality rates.)

Rate of return	Age of retirement			
	55	60	65	70
Low	12.87	11.56	10.11	8.62
Medium	11.82 (11.39)	10.72 (10.30)	9.47 (9.14)	8.16 (7.95)
High	10.14	9.35	8.40	7.36
Low +.6	12.22	11.05	9.72	8.34
Med. +.6	11.26	10.27	9.12	7.90
High +.6	9.72	9.00	8.12	7.15

Using the above data, more than 1,000 scenarios were investigated through the methodology outlined in Appendix A. The output of the models includes various statistical measures related to qualifying service, pension benefits, and pension costs. The balance of the paper is devoted to the presentation and analysis of the results.

3. RESULTS

The first phase of the study was limited to career qualifying service. The objective was to investigate the impacts of vesting rules,

FIGURE 3. Wage at Different Ages as a Fraction of Wage at 65 under Different Inflationary Assumptions (bottom lines) and Wage at Different Ages Invested until 65, as a Fraction of Wage at 65 (top line).

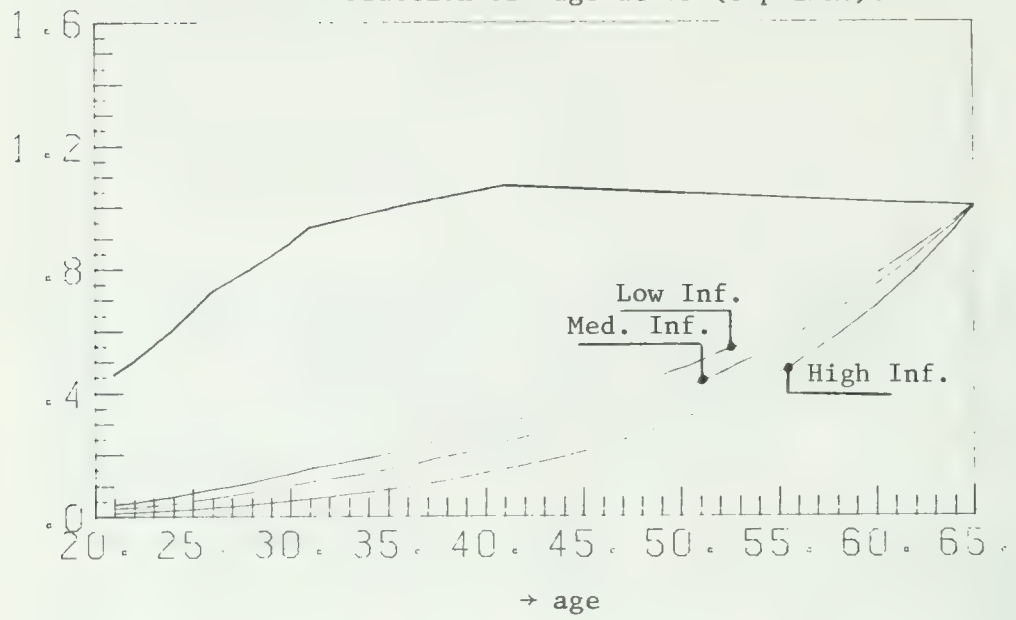
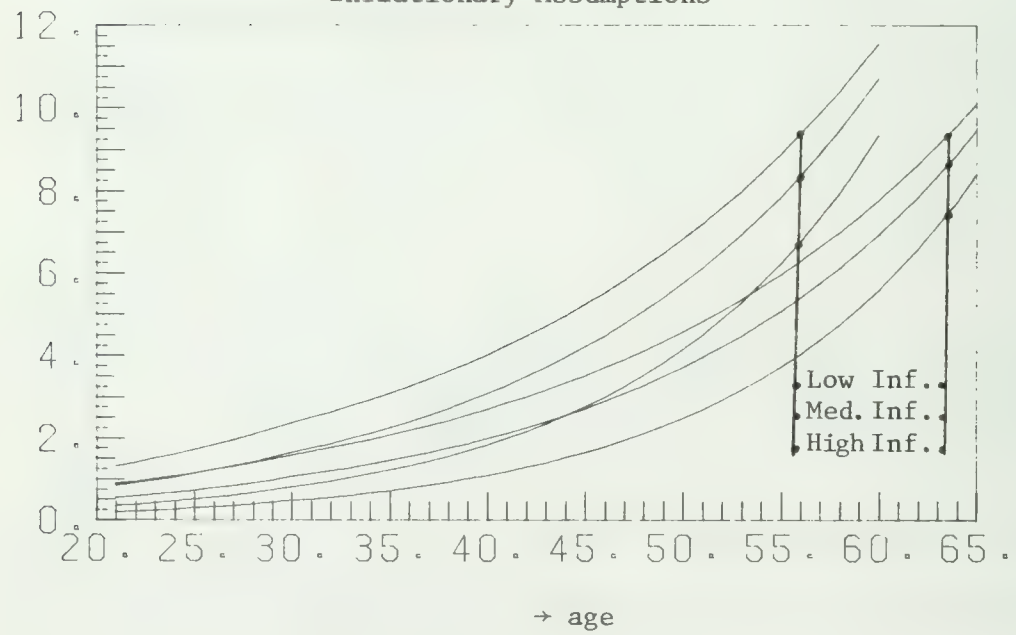


FIGURE 4. Cost at Different Ages of $1 Annuity Starting at Age 60 (top trio) or 65 (bottom trio) under Different Inflationary Assumptions



termination rates, and periods of employment on the distribution of qualifying service. Results obtained in this phase were then used in designing the second and third phase scenarios on pension benefits and pension costs. This section is devoted to the presentation and discussion of the findings in the last two phases of the study. It begins with a comparative analysis of the expectation, variability, and distribution of pension benefits at retirement under different plans, vesting rules, termination rates, and periods of employment. The impacts of inflation and source of contributions are examined next. Finally, the expected total costs and costs to the employers of projected benefits are analyzed under different scenarios, with particular reference to the effects of plan types, vesting rules, termination rates, inflation, and source of contributions.

Pension Benefits

Output of the benefit models included expectations, variances, Gini coefficients, distributions, and Lorenz curves, as measures characterizing pension benfits at retirement for a typical employee (or for a group of similar employees). As already noted, benefits are expressed as a fraction of the wage in the year 2024 (hereafter referred to as the base wage).

Expected Benefits

Expected pension benefits at retirement are presented in Table 4 for some of the scenarios investigated. The top left-hand entry of 8.34, for example, means that in CA plans under the vesting rule 45 and 10, a typical worker of low mobility, who starts his or her working life at the age of 20 and plans to retire at age 60, may expect as private pension income at retirement 8.34 per cent of his or her projected 2024 wage. (If the benefit level used were 2 per cent, rather than 1 per cent, the expectation in question would have been 16.68 per cent of the base wage.) Comparatively, other things being the same, 5Y plans imply twice as high benefits (16.70 per cent of the base wage), the retirement age of 65 increases pension benefits by 50 per cent (13.61 per cent of the base wage), and under the same circumstances, a worker of high mobility could expect less than half (3.86 per cent of the base wage) the benefits due to his or her low-mobility counterpart. Such comparisons will now be expanded through vesting rules, termination rates, plan types and periods of employment. Because of the somewhat arbitrarily selected benefit levels and contribution rates, expectations under defined benefit plans are not directly comparable, however, with those under the MP plan.

First, as regards to the impact of vesting rules, an examination of Table 4 indicates that for all age groups and termination rates, and for both of the defined benefit plans, the rank of the vesting rules under consideration, from the most stringent to the most liberal, is: 45 and 10, service 10, 40 and 5, service 5, rule 50, rule 45, and service 1.

Table 4
Expected Pension Benefits

Termination rates	Vesting rules	20-60			20-65			25-60			25-65		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
	45 + 10	8.34	16.70	11.99	13.61	29.00	21.64	8.10	14.91	11.11	13.34	26.32	20.27
	Service 10	8.69	17.26	13.20	14.01	29.63	23.51	8.37	15.31	11.94	13.66	26.76	21.54
	40 + 5	8.96	17.48	12.95	14.44	30.01	23.13	8.76	15.71	12.10	14.22	27.34	21.79
Low	Service 5	9.25	17.89	14.18	14.77	30.48	25.03	9.01	16.01	12.97	14.50	27.68	23.14
	Rule 50	9.24	17.83	13.45	14.84	30.48	23.93	9.02	15.99	12.44	14.59	27.74	22.34
	Rule 45	9.36	17.97	13.81	14.97	30.64	24.49	9.14	16.12	12.77	14.72	27.89	22.85
	Service 1	9.57	18.21	14.83	15.21	30.92	26.07	9.37	16.37	13.68	14.99	28.18	24.25
	45 + 10	6.20	10.91	8.38	10.52	19.36	15.66	5.98	9.93	7.79	10.26	17.92	14.74
	Service 10	6.61	11.54	9.73	10.99	20.06	17.75	6.29	10.35	8.68	10.60	18.39	16.11
	40 + 5	7.53	12.47	10.21	12.43	21.54	18.64	7.36	11.50	9.63	12.22	20.13	17.75
Medium	Service 5	7.94	13.00	11.84	12.90	22.15	21.16	7.68	11.88	10.75	12.59	20.56	19.47
	Rule 50	8.28	13.27	11.08	13.60	22.77	20.17	8.08	12.24	10.34	13.37	21.29	19.02
	Rule 45	8.56	13.58	11.80	13.91	23.13	21.28	8.37	12.55	11.03	13.69	21.64	20.08
	Service 1	9.06	14.12	13.87	14.48	23.74	24.48	8.85	13.06	12.76	14.25	22.22	22.74
	45 + 10	3.86	6.15	4.96	6.87	11.29	9.67	3.72	5.71	4.66	6.70	10.66	9.19
	Service 10	4.15	6.58	5.88	7.20	11.77	11.09	3.93	6.00	5.25	6.94	10.98	10.11
	40 + 5	5.56	8.07	7.12	9.47	14.18	13.38	5.44	7.63	6.81	9.33	13.56	12.89
High	Service 5	5.92	8.50	8.47	9.88	14.68	15.47	5.71	7.94	7.72	9.63	13.91	14.29
	Rule 50	6.92	9.46	8.43	11.74	16.48	15.86	6.80	8.99	8.01	11.59	15.83	15.21
	Rule 45	7.35	9.91	9.38	12.22	17.00	17.32	7.22	9.44	8.93	12.07	16.33	16.62
	Service 1	8.06	10.65	12.07	13.04	17.85	21.48	7.88	10.11	11.13	12.83	17.10	20.01

This ordering is preserved with few marginal exceptions. In addition, performances of the first, second, and third pairs of rules are similar in general, but differences between pairs increase with rates of termination. Comparisons by pairs of the results under the rules 45 and 10 versus service 10, and 40 and 5 versus service 5 in defined benefit plans suggest that the age requirement, as an addition to the service requirement, would have a minor impact on expected benefits. This is in reflection of lower salary scales and higher rates of termination in younger years. It can also be seen from Table 4 that the vesting rule has a marginal effect on expected benefits and that nothing much is lost due to vesting requirements in the low termination sector. As termination rates increase, however, the vesting rule becomes a critical factor, especially in CA plans. The relative insensitivity to vesting rules in 5Y plans is evidently due to the fact that the pension benefits accumulated at different ages in these plans depend heavily on the age at termination. Thus, liberalization brings in a smaller percentage increase in benefits (as compared to CA plans) associated with creditable service at different ages.

The ordering and pairing of the vesting rules in defined benefit plans are not preserved under the MP plan. The most notable development here is the relative improvements in expectations when the age requirements are dropped from the vesting rules 45 and 10 and 40 and 5. This can be explained by noting that in MP plans benefits creditable to different years of service are independent of the age at termination (as in CA but not in 5Y plans), in addition to being comparable in value (as opposed to both defined benefit plans). Accordingly, removing the age requirement results in comparable additional benefits, making the rule service 5 the most liberal vesting provision in the low termination sector (with the exception of the rule service 1). In the medium termination sector also, the rule service 5 is either the most liberal vesting rule or a close second to rule 45. Significant improvements in the relative performance in MP plans of the rule service 10 are also evident in Table 4. With the exception that the age requirement in vesting rules is a more substantial deterrent in MP plans than in defined benefit plans, the effect of vesting rules in MP plans is similar, in general, to that in CA plans.

Next, regarding the impact of mobility, higher rates of termination would have two interrelated effects on vested benefits: reducing the length of a creditable service, and dividing a long period of creditable service in one employment into shorter periods of such service in several employments. The former effect is operational in all plans, but the latter is relevant only with respect to 5Y plans where benefits vested for a given year of service are determined by wages earned in later years in the same employment. Thus, 5Y plans are doubly affected by termination rates. In addition, since reductions in creditable service are more pronounced during younger years when termination rates are higher, MP plans would be more sensitive to mobility than CA plans. These expectations are well reflected in Table 4 where the impact of

termination rates is comparatively higher in 5Y plans than in MP plans, and in MP plans than in CA plans. Note also that the relative advantages in 5Y plans increase from high to low rates of termination and from early to normal ages of retirement. The results also show that the previously noted ranking (and pairing in defined benefit plans) of the vesting rules is also valid in relation to the influences of termination rates and plan types. In other words, more stringent provisions are comparatively more sensitive to plan designs and high rates of termination magnify this sensitivity. Consequently, liberalization of vesting rules would have an overall equalizing effect on expected benefits.

For the same age of retirement (60 or 65) the entry age 20 implies a marginal increase in expected benefits as compared to the entry age 25, due to the fact that the years of service from age 20 to age 25 either will not be creditable (due to higher mobility during younger years) or, even if they are, the relative value of the associated benefits will be small in defined benefit (especially CA) plans. On the other hand, for the same entry age (20 to 25) expected benefits related to the normal retirement age of 65 are much larger than those associated with the early retirement age of 60. For in all plans, more benefits will accrue over a longer working life, and an actuarial increase in benefits will be realized due to a shorter expected post-retirement life span. In addition, if not terminated, benefits related to the last employment will be larger in 5Y plans and the fund will accrue returns over five additional years in MP plans. It can also be seen from Table 4 that the relative increases in expected benefits resulting from a liberalization of vesting rules would be nearly the same for all age groups. Similarly, higher rates of termination do not appear to have an aggravating effect on the relative benefits of different age groups.

Variability of Benefits

In Table 5, coefficients of variation are presented under the same scenarios as in Table 4. Coefficient of variation, defined as the ratio of standard deviation to mean, is a summary measure of the dispersion of benefits across the population of recipients. The measure is independent of the benefit level in defined benefit plans; that is, the same numerical values would have resulted if higher or lower levels of benefit (than 1 per cent) were used in computations. Similarly, the measure does not depend on the particular contribution level used in the money purchase plan. Consequently, as opposed to the means, coefficients of variation under defined benefit plans are directly comparable with those under the money purchase plan.

Analysis of the entries in Table 5 in much the same way as before reveals that the ranking and pairing of the vesting rules in relation to defined benefit and money purchase plans according to increasing means also turn out to be the order of these rules in decreasing coefficients of variation. It is evident that the vesting rules have a substantial impact on the variability of benefits for all age groups, plan types,

Table 5
Expected Pension Benefits

Termination rates	Vesting rules	20-60			20-65			25-60			25-65		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
	45 + 10	.26	.38	.31	.22	.35	.27	.27	.37	.31	.23	.34	.26
	Service 10	.22	.33	.20	.19	.32	.18	.24	.33	.23	.21	.32	.20
	40 + 5	.13	.30	.20	.11	.29	.17	.13	.27	.19	.11	.27	.16
Low	Service 5	.10	.27	.10	.09	.27	.09	.11	.25	.11	.10	.26	.10
	Rule 50	.08	.27	.16	.06	.27	.14	.08	.24	.16	.06	.25	.14
	Rule 45	.06	.25	.12	.04	.26	.11	.06	.23	.12	.05	.24	.11
	Service 1	.03	.24	.03	.03	.25	.03	.03	.22	.03	.03	.23	.03
	45 + 10	.54	.66	.58	.46	.61	.50	.56	.66	.59	.48	.60	.50
	Service 10	.48	.60	.45	.43	.57	.40	.51	.61	.49	.45	.57	.43
	40 + 5	.28	.47	.34	.24	.45	.30	.28	.44	.33	.25	.42	.29
Medium	Service 5	.25	.43	.23	.22	.42	.21	.26	.41	.25	.23	.41	.23
	Rule 50	.15	.38	.27	.11	.37	.23	.15	.35	.26	.11	.35	.22
	Rule 45	.12	.36	.21	.09	.36	.18	.12	.32	.20	.09	.33	.17
	Service 1	.08	.32	.07	.07	.34	.07	.08	.29	.08	.07	.31	.07
	45 + 10	.93	1.06	.97	.81	.95	.84	.95	1.05	.97	.82	.94	.84
	Service 10	.85	.97	.81	.77	.90	.73	.89	.99	.86	.79	.91	.76
	40 + 5	.50	.68	.55	.44	.63	.48	.50	.65	.53	.44	.61	.47
High	Service 5	.46	.63	.44	.41	.60	.39	.47	.62	.46	.42	.59	.41
	Rule 50	.24	.47	.38	.19	.44	.32	.24	.44	.37	.18	.42	.30
	Rule 45	.19	.42	.30	.16	.42	.25	.19	.39	.28	.16	.39	.24
	Service 1	.14	.37	.14	.13	.38	.13	.14	.34	.14	.13	.36	.13

and termination rates. Also, both standard deviations(9) and coefficients of variation are highest in the 5Y plan, followed by MP and CA plans. High dispersion of benefits in 5Y plans can again be explained by the fact that in these plans benefits associated with a creditable year of service may vary substantially as a function of the age at termination. Also, since the benefits creditable to earlier ages are comparatively more significant in MP plans than in CA plans, pension benefits are relatively more dispersed in the former plans.

In view of these observations, tentative conclusions reached through expected benefits regarding the "immunity" of the low termination sector to vesting rules, and the extent of superiority of 5Y plans over CA plans must be qualified. In addition, reductions in the variability of benefits in moving to more liberal vesting rules are not as significant in 5Y plans as in CA and MP plans. It is interesting to note that the age requirement in vesting rules is again more critical in MP plans than in defined benefit plans.

Distribution of Benefits

Due to random nature of the employment termination process, pension benefit at retirement is a random variable. Therefore, measures considered so far provide only a partial characterization. To arrive at the complete picture, especially in relation to policy issues, distribution of benefits must be identified.

As computed through the underlying methodology, cumulative distributions of pension benefits at retirement for age group 25-65 are presented in Figures 5 to 13, under different vesting rules, plan types, and termination rates. For every benefit level on the horizontal axes, the proportion of recipients whose benefits will be below this level can readily be determined from these graphs. For example, we can see from Figure 10 that nearly 68 per cent of the high mobility sector will receive less than 15 (15 per cent of the base wage) in a 5Y plan under the rule service 10. This proportion reduces to about 10 per cent for the low mobility group (Figure 8). By implication, 32 per cent and 90 per cent, respectively, of the high and low mobility workers will receive more than 15. Conversely, by identifying first the percentages, one can determine the percentiles of the distributions. Again, from Figures 10 and 8, the first quartiles under service 10 with high and low rates of termination are 3.5 and 15, respectively, medians are 10 and 20, third quartiles are 17.5 and 35, and inter-quartile ranges are 14 and 20. These numbers have obvious interpretations. Evidently, benefits of the middle 50 per cent will vary from 3.5 to 17.5 with a range of 14, if termination rates are high, but from 15 to 35 with a range of 20, if termination rates are low. Note that the maximum possible benefit is 36 and 25 per cent of the low termination group will receive more than 35 under any vesting rule.

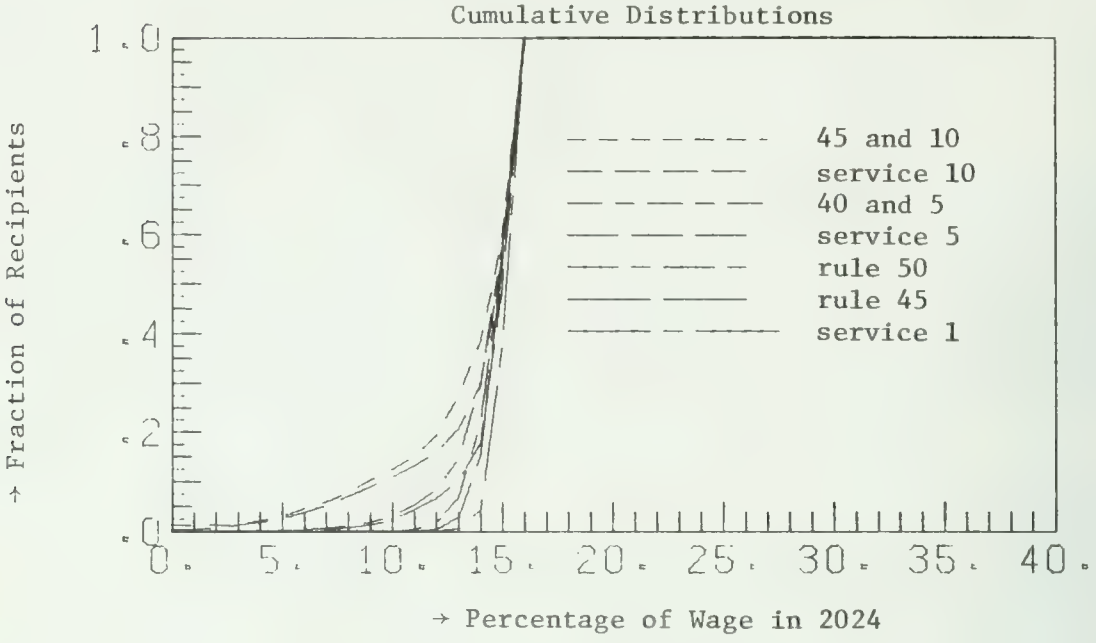
The above observations are related to the distribution of career pension benefits for a group of similar employees under a given scenario. The obvious equitable result for them would be to obtain equal pensions. Any departures from this equality would have to be a consequence of the interaction of termination rates with vesting rules and other scenario elements. An instrument for the measurement of such departures is the Lorenz curve. The Lorenz curve of a pension benefit distribution is a plot of the fraction of employees receiving less than a given level of benefit versus the relative share of this group of the total pension income (or pension wealth). Figures 5 to 13 also include the corresponding Lorenz curves. According to Figure 10, for example, in 5Y plans under the rule service 10, the bottom 40 per cent of the high termination sector will share only 3 per cent of the pension income due to this sector. In the low termination sector, the share of the bottom 40 per cent of the recipients would be 25 per cent (Figure 8).

If the correspondence between the fractions of recipients and their share of the pension wealth were to be one to one, the Lorenz curve would have been the straight-line diagonal shown in the Figures. This corresponds to an ideal (perfectly egalitarian) distribution. Departures from this ideal are measured by the Lorenz curve on a point-by-point basis, and by a summary measure called the Gini coefficient on a global basis. This index is defined, conventionally, as twice the area formed by the straight-line diagonal and the Lorenz curve (i.e., the ratio of this area to the total area of .5 below the diagonal). Consequently, as the Lorenz curve approaches the diagonal, the Gini coefficient decreases (tends to 0) signifying an egalitarian distribution. Conversely, as the Lorenz curves moves away from the diagonal, the Gini coefficient increases (approaches to 1) characterizing an equitable distribution in the sense of the disproportionately high accumulations of the pension wealth in the high pension income groups. Gini coefficients under different scenarios are presented in Table 6.

We now turn to a brief comparative discussion of the distributions, Lorenz curves, and Gini coefficients through the impacts of vesting rules, termination rates, plan types, and periods of employment.

Figures 5 and 8 show that the impact of vesting rules in defined plans is in fact marginal when termination rates are low; only the rules 45 and 10 and service 10 perform noticeably worse than others. This impact becomes substantial in medium and high termination sectors where the previously noted groupings are remarkably distinct (Figures 6, 7, 9, and 10). In general, distributions shift to the right as the vesting rule becomes more liberal, thus placing smaller fractions of recipients below a given level of benefit. These shifts are not always uniform, however. In Figure 5, for example, distributions under the rules service 10 and 40 and 5 cross at about the benefit level 14. Thus, under both rules, approximately 28 per cent will receive less than 14. However, below this benefit level, relatively higher proportions of recipients would receive smaller benefits (and above this benefit level, rela-

FIGURE 5. Distribution of Pension Benefits and Lorenz Curves under Different Vesting Rules in Career Average Plans with Low Termination Rates



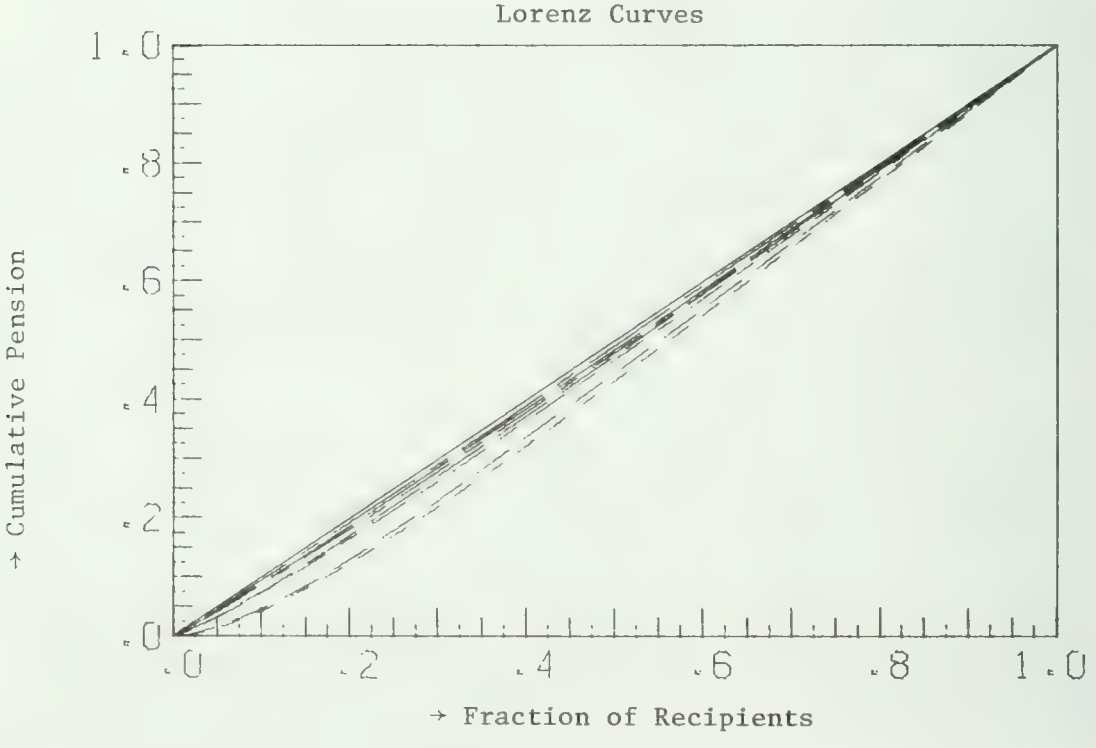
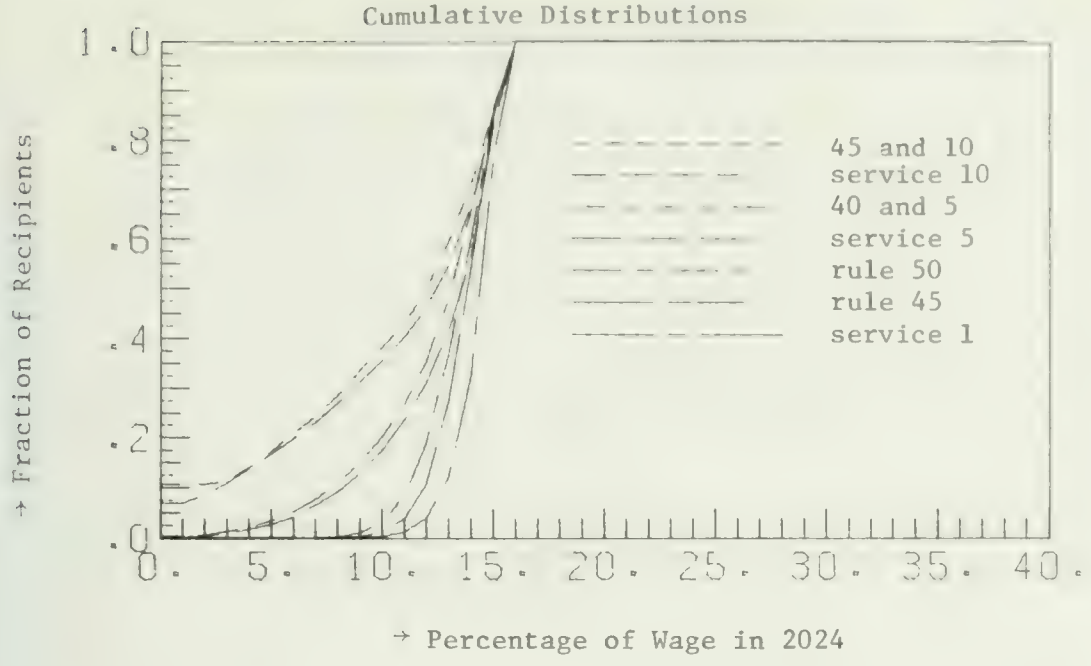


FIGURE 6. Distribution of Pension Benefits and Lorenz Curves under Different Vesting Rules in Career Average Plans with Medium Termination Rates



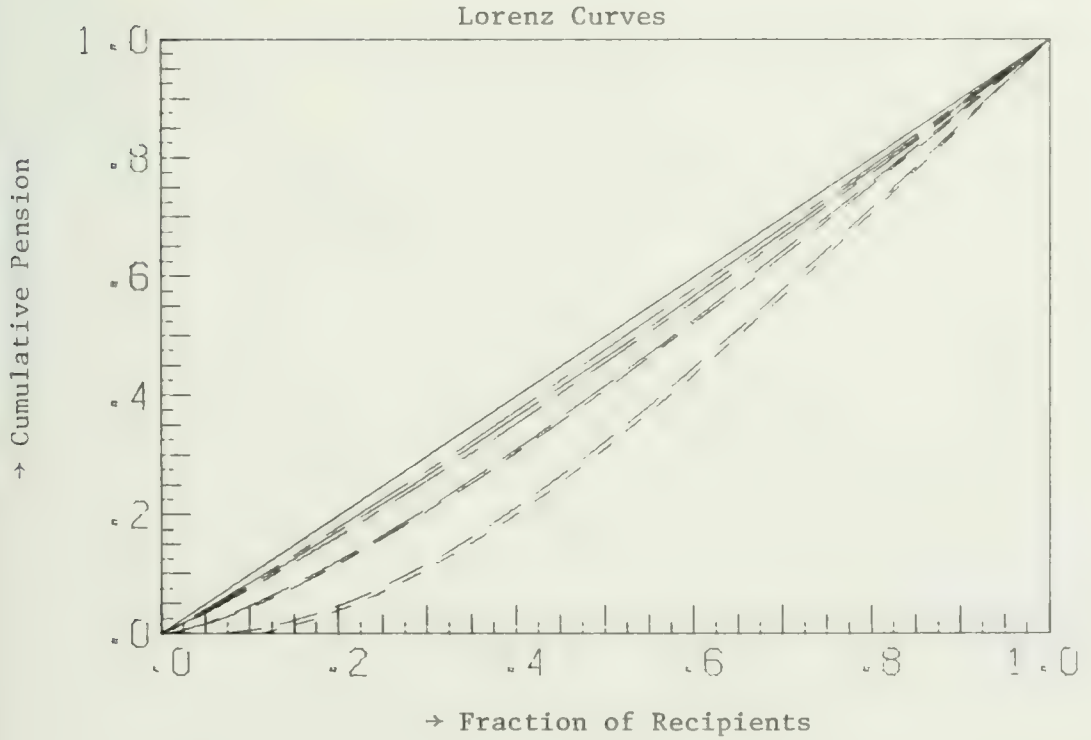
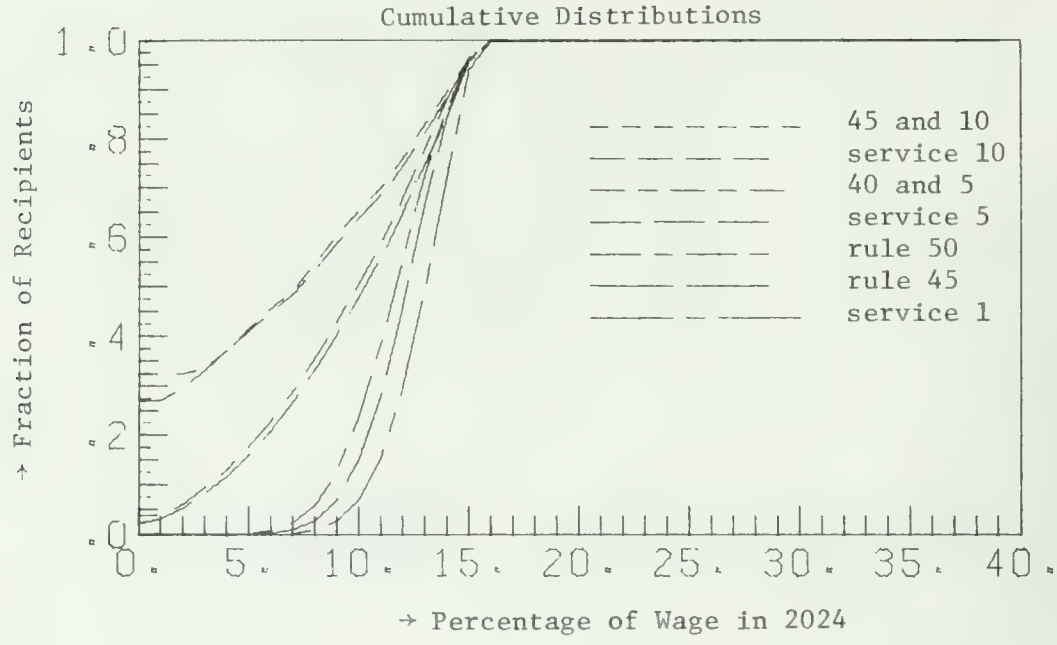


FIGURE 7. Distribution of Pension Benefits and Lorenz Curves under Different Vesting Rules in Career Average Plans with High Termination Rates



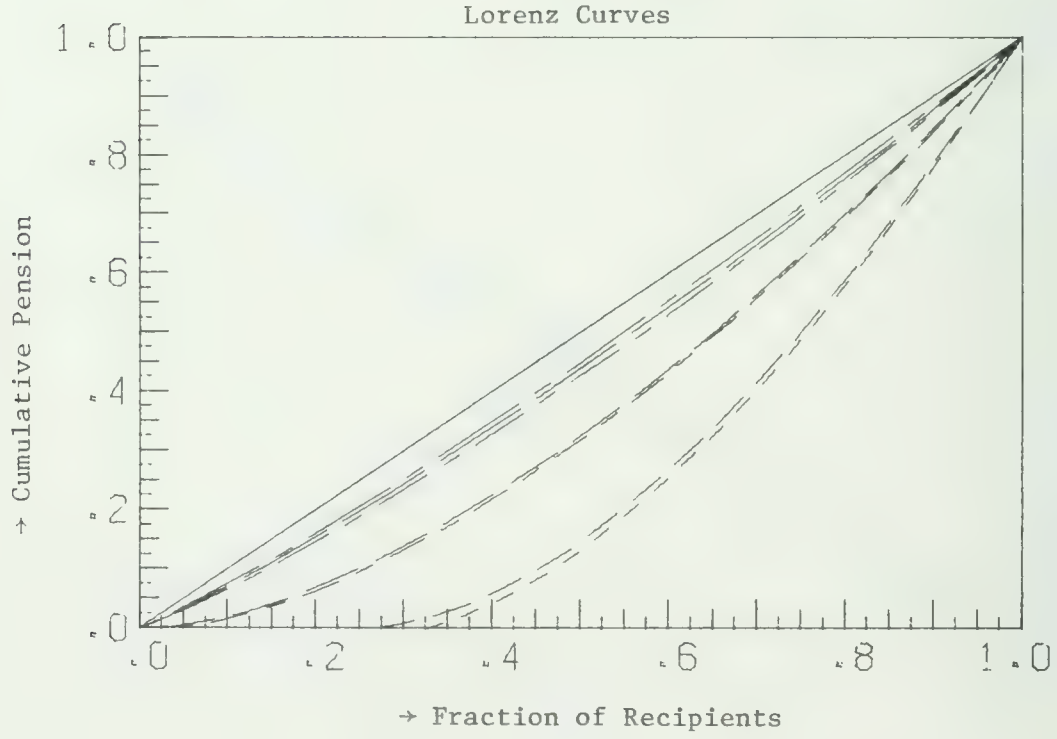
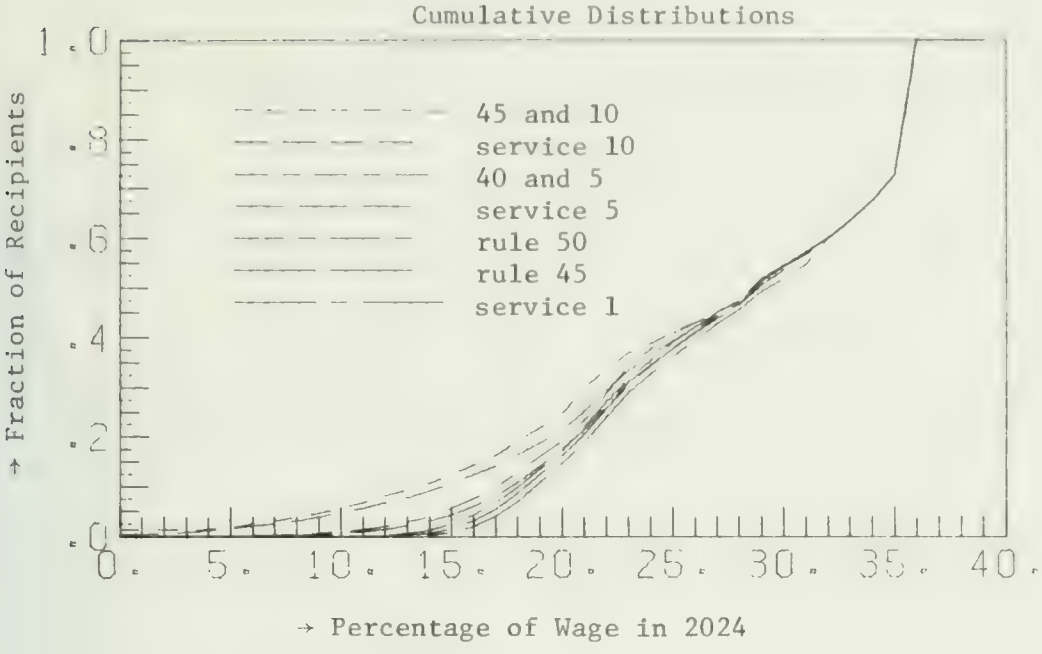


FIGURE 8. Distribution of Pension Benefits and Lorenz Curves under Different Vesting Rules in 5Y Plans with Low Termination Rates



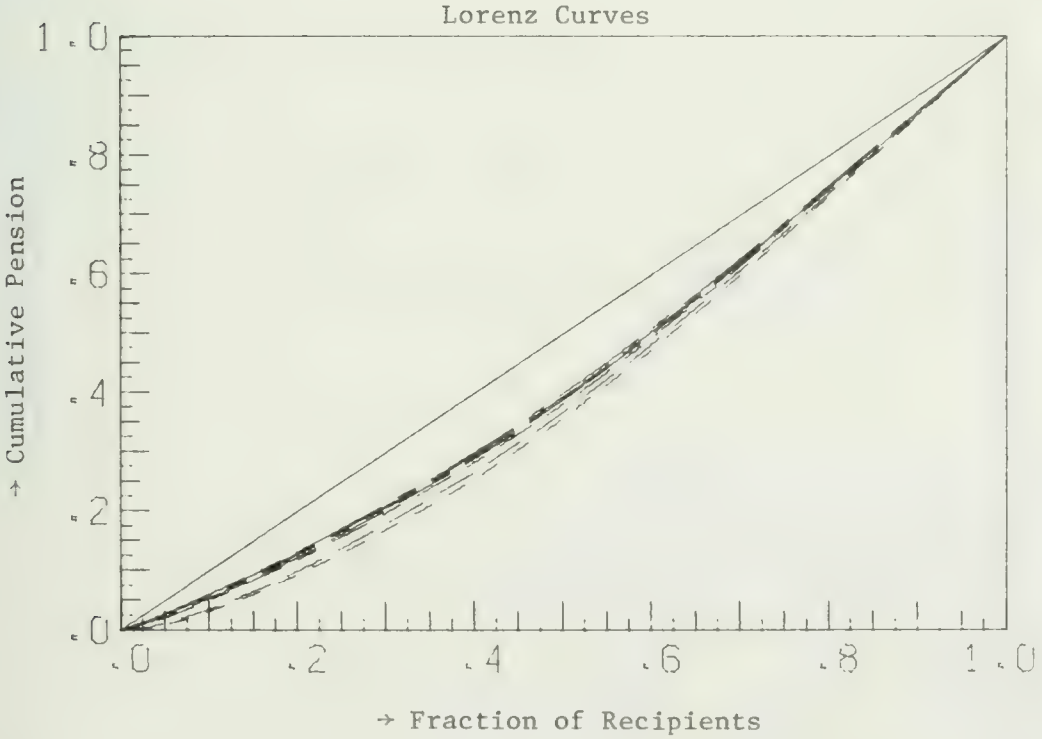


Table 6
Gini Coefficients

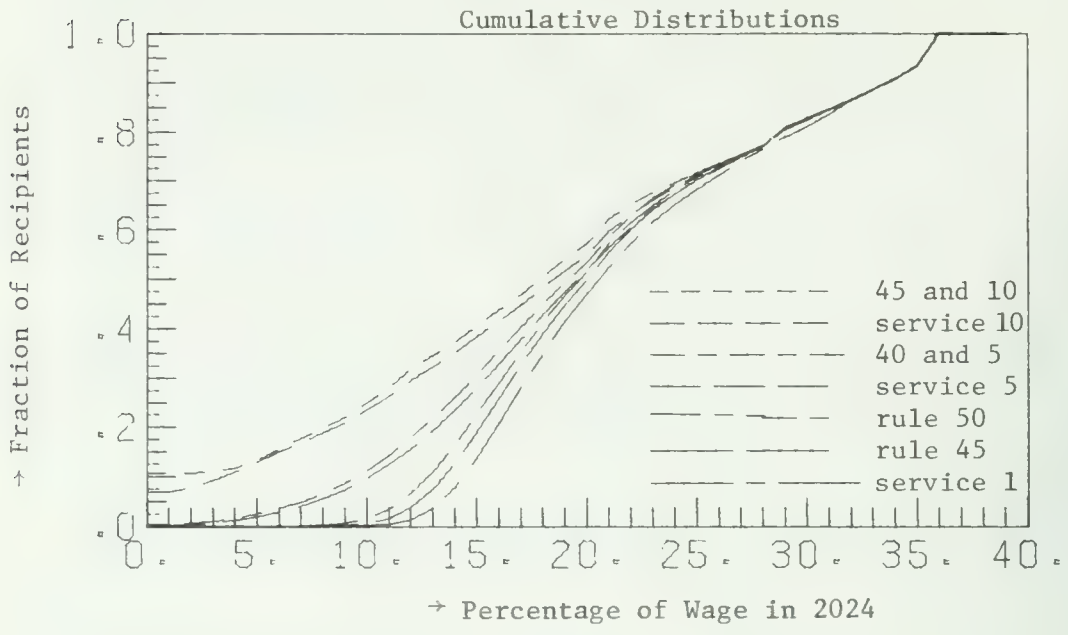
Termination rates	Vesting rules	20-60			20-65			25-60			25-65		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
	45 + 10	.12	.21	.16	.10	.20	.14	.13	.20	.16	.10	.19	.14
	Service 10	.09	.18	.10	.08	.18	.09	.11	.18	.11	.09	.17	.10
	40 + 5	.06	.17	.11	.05	.16	.09	.06	.15	.10	.05	.15	.09
Low	Service 5	.04	.15	.05	.04	.15	.04	.05	.14	.05	.04	.14	.05
	Rule 50	.04	.15	.08	.03	.15	.07	.04	.14	.08	.03	.14	.07
	Rule 45	.03	.14	.06	.02	.15	.06	.03	.13	.06	.02	.13	.06
	Service 1	.01	.13	.01	.01	.14	.01	.02	.12	.02	.01	.13	.02
	45 + 10	.30	.38	.33	.25	.35	.29	.31	.38	.33	.26	.34	.28
	Service 10	.26	.34	.25	.23	.33	.22	.28	.35	.27	.24	.33	.24
	40 + 5	.15	.27	.20	.13	.26	.17	.15	.25	.19	.13	.24	.16
Medium	Service 5	.13	.24	.13	.11	.24	.12	.14	.23	.14	.12	.23	.12
	Rule 50	.08	.22	.16	.06	.21	.13	.08	.20	.15	.06	.20	.13
	Rule 45	.06	.20	.12	.05	.20	.10	.06	.18	.11	.05	.19	.10
	Service 1	.04	.18	.04	.04	.19	.04	.04	.16	.04	.04	.17	.04
	45 + 10	.52	.57	.54	.46	.52	.47	.53	.57	.54	.47	.52	.47
	Service 10	.48	.54	.46	.44	.50	.41	.50	.55	.49	.45	.51	.43
	40 + 5	.28	.38	.31	.25	.35	.27	.29	.37	.31	.25	.34	.27
High	Service 5	.26	.35	.25	.23	.33	.22	.27	.35	.26	.24	.33	.23
	Rule 50	.14	.25	.22	.11	.24	.18	.13	.24	.21	.10	.22	.17
	Rule 45	.11	.23	.17	.09	.22	.15	.11	.21	.16	.09	.21	.14
	Service 1	.08	.20	.08	.07	.20	.07	.08	.18	.08	.07	.19	.07

tively lower proportions of recipients would receive higher benefits) under the rule service 10. Similar crossings can be observed in Figure 5 also with respect to the vesting rule service 5. Therefore, distributions of benefits in defined benefit plans under the service requirement rules are relatively more concentrated at both extremes of the range, while under the age-service rules relatively more of the frequency lies in mid-ranges. These tendencies, however, are not reflected by Lorenz curves and Gini coefficients strongly enough to contradict the previously suggested ranking of the vesting rules. Lorenz curves and Gini coefficients for medium and high rates of termination are in strict agreement with this ranking. When termination rates are low, Lorenz curves are hardly distinguishable under more liberal vesting rules.

The vesting rule is much more influential in the money purchase plan (Figures 11, 12, and 13), even when the rates of termination are low. Groupings observed in relation to defined benefit plans are no longer evident. Thus, even modest changes in vesting rules would create significant overall changes and shifts in distributions. This is a direct consequence of the periods of service for which benefits are forfeited due to termination before the vesting requirements are met. As pointed out before, in terms of their value at retirement, such benefits are comparable for comparable lengths of service in money purchase plans, irrespective of the specific time periods of accrual in one's working life. Their forfeiture, therefore, would induce a corresponding decrease in pension benefits due at retirement. (In defined benefit plans, benefits forfeited at younger years would have a relatively minor impact on the purchasing power of the pension income at retirement.)

The impact of termination rates is substantial in all cases, as reflected by a shift to the left in distributions and a shift to the right in Lorenz curves, from low to high rates. The former is due to the fact that as termination rates increase, the proportion of recipients below a given level of pension income would also increase. Shifts in Lorenz curves, especially under more stringent vesting rules, are consequences of the relatively larger fractions of recipients with little or no pension income in higher termination sectors. Both Lorenz curves and distributions indicate that in the high termination sector (age group 25-65), 32.5 per cent of the covered population would have no vested pension under the rule 45 and 10. This proportion drops to 27.5 per cent under the rule service 10, and to below 5 per cent under the rule 40 and 5. For the age group 20-65, (distributions are not shown) the respective proportions were 25.5 per cent, 18 per cent, and 2 per cent. In the medium termination sector for age group 25-65 (20-65) the same proportions are 9.5 per cent (7 per cent) under the rule 45 and 10, 7 per cent (3 per cent) under the rule service 10, and negligible or zero under other rules. Consequently, as a measure of the risk of terminating employees, probability of no vested pension is highly sensitive to vesting rules, termination rates, and periods of employment. These findings, which refer to the covered population only, should be reflected in view

FIGURE 9. Distribution of Pension Benefits and Lorenz Curves under Different Vesting Rules in 5Y plans with Medium Termination Rates



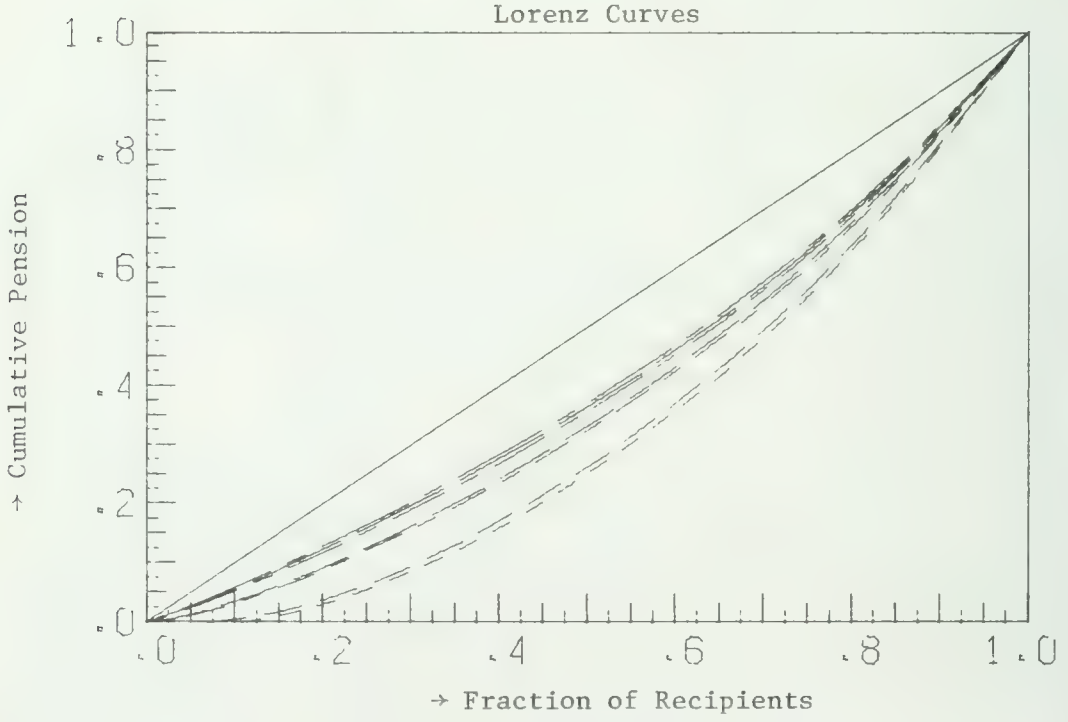
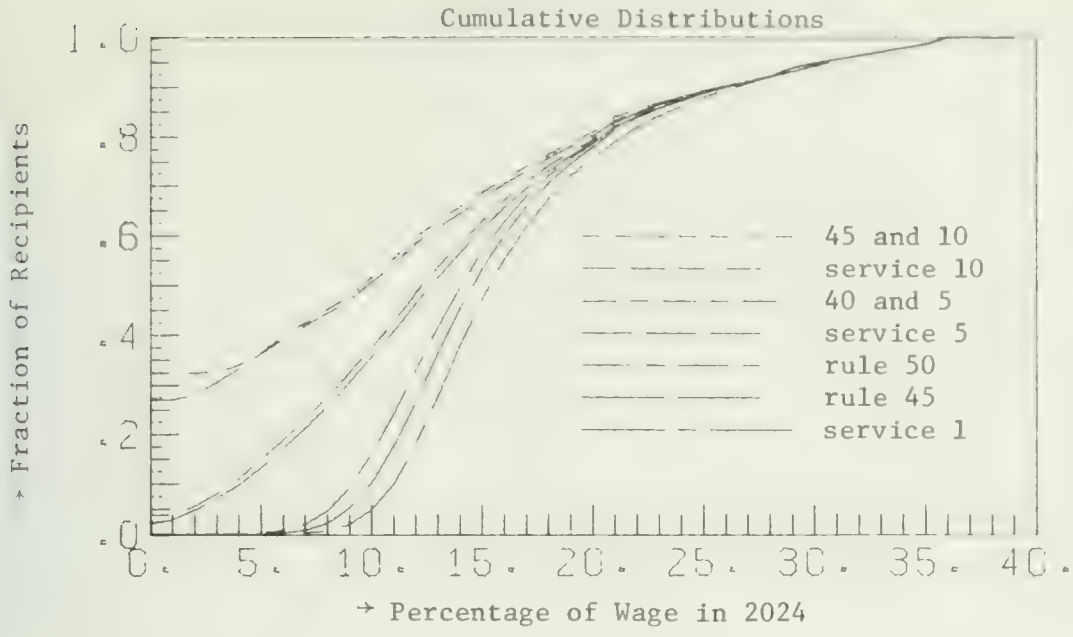


FIGURE 10. Distribution of Pension Benefits and Lorenz Curves under Different Vesting Rules in 5Y Plans with High Termination Rates



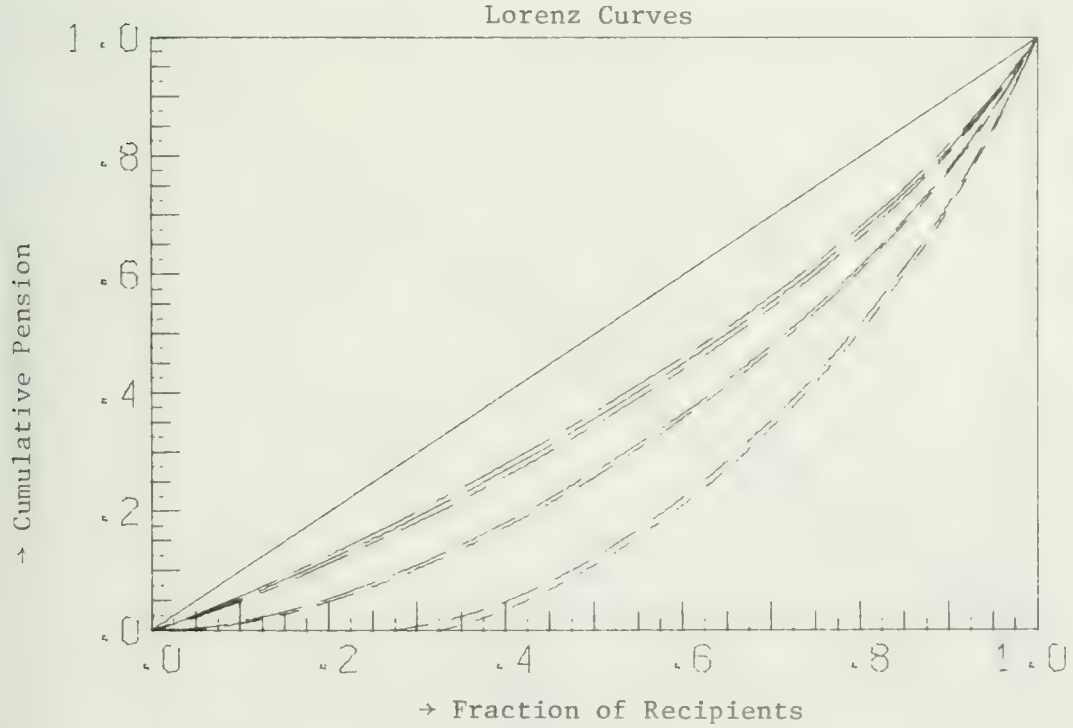
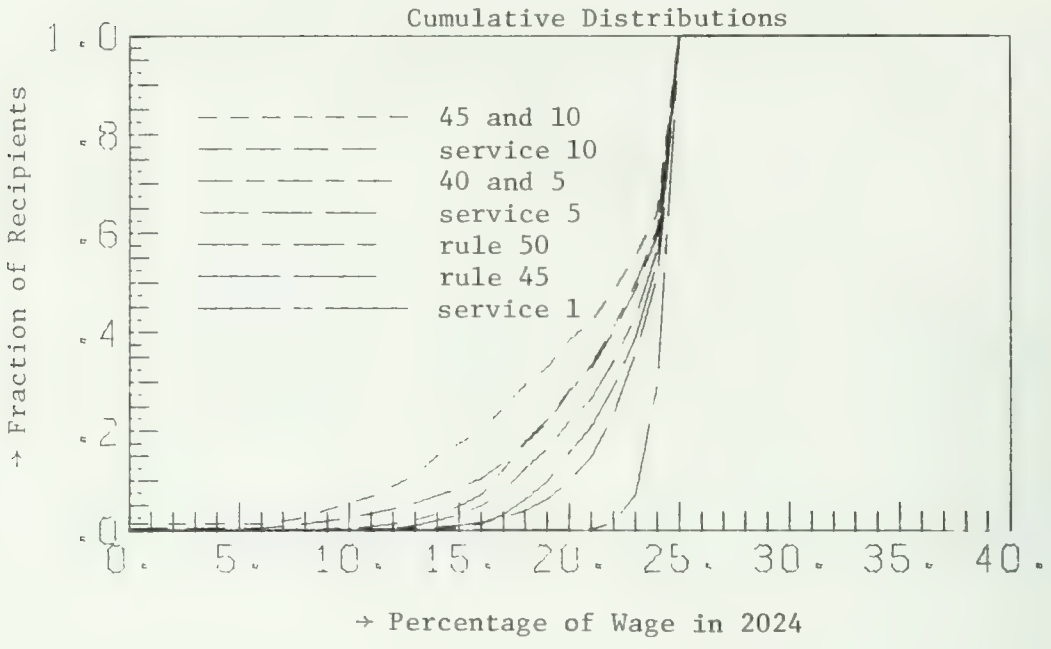


FIGURE 11. Distribution of Pension Benefits and Lorenz Curves under Different Vesting Rules in MP Plans with Low Termination Rates



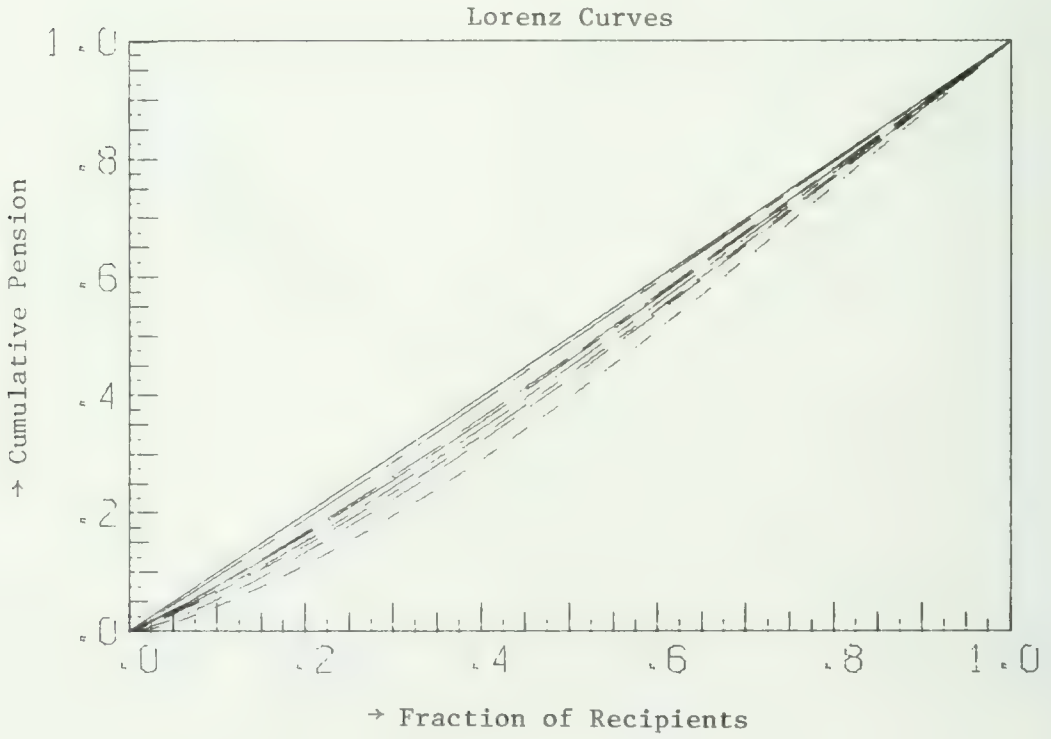
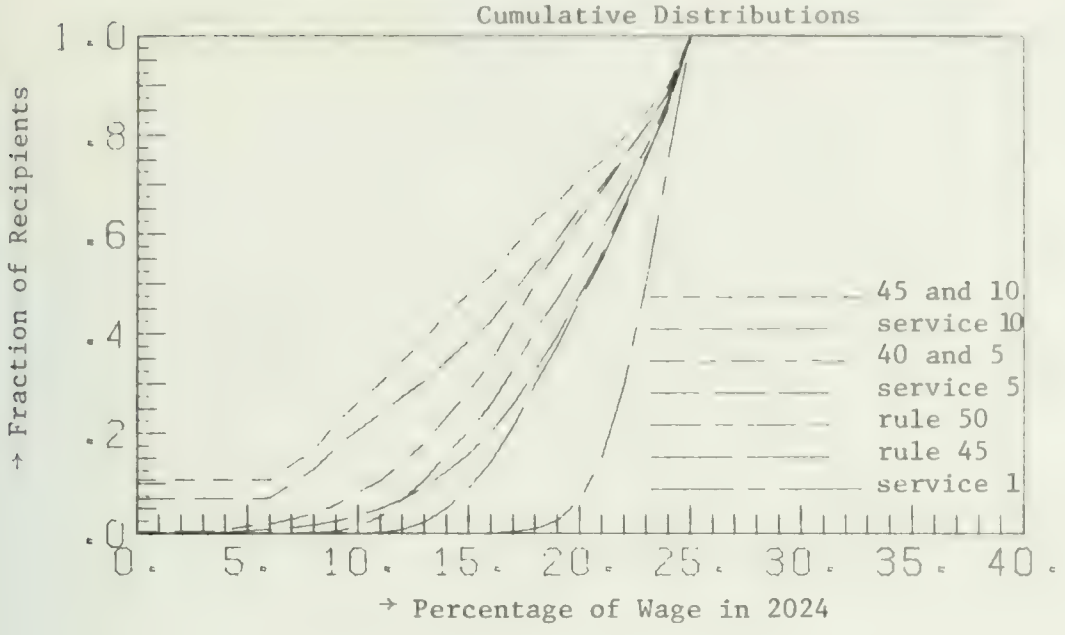


FIGURE 12. Distribution of Pension Benefits and Lorenz Curves under Different Vesting Rules in MP Plans with Medium Termination Rates



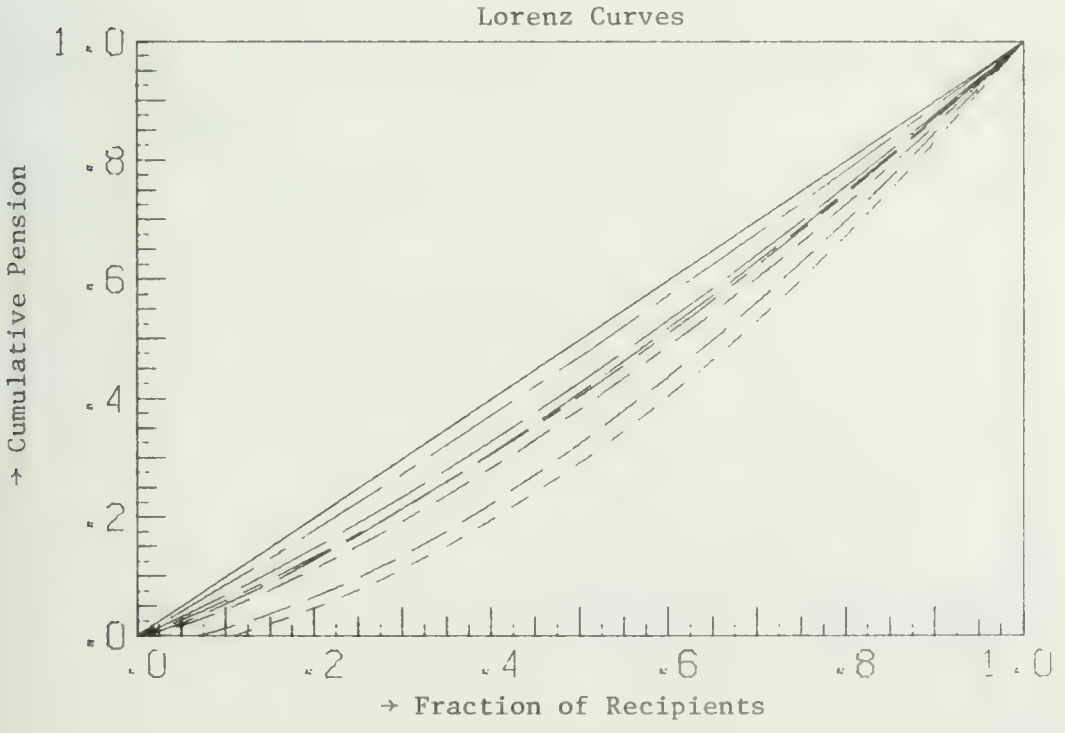
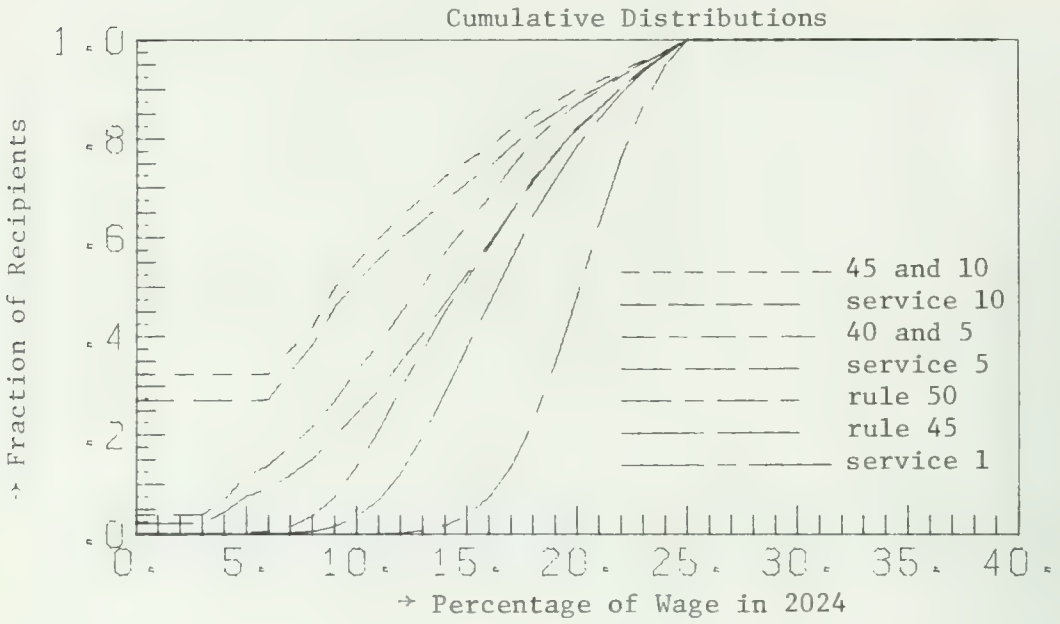
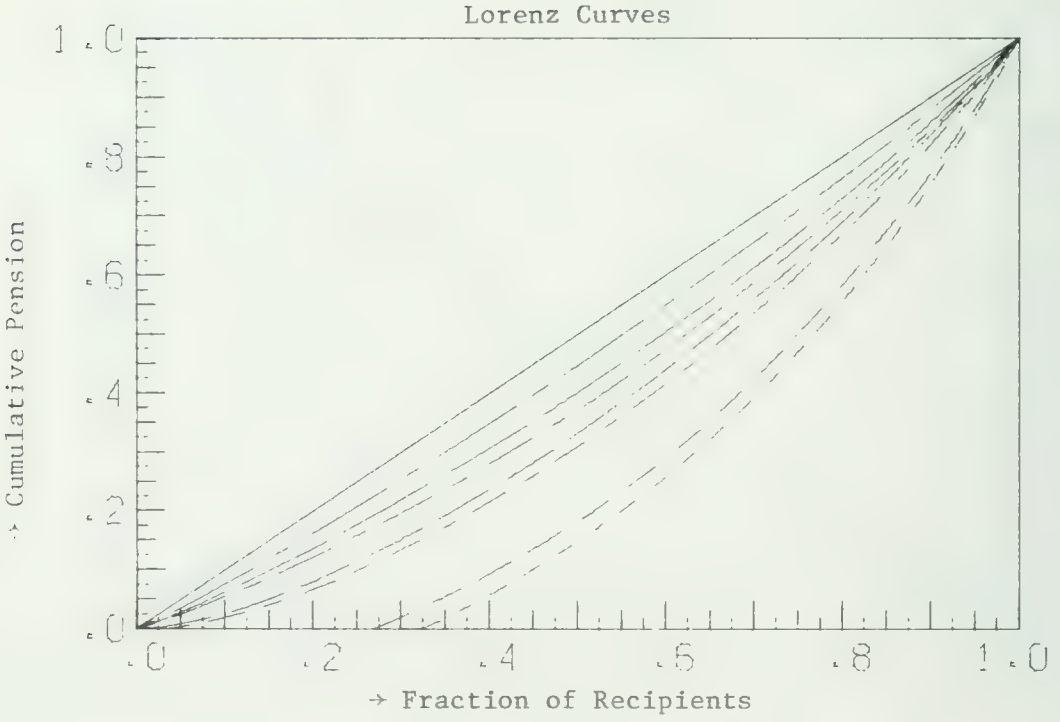


FIGURE 13. Distribution of Pension Benefits and Lorenz Curves under Different Vesting Rules in MP Plans with High Termination Rates





of the currently large proportion of the retired population in Ontario (and elsewhere) receiving no private pension income.

Regarding the impact of the plan type, it is seen from the distributions that the maximum possible benefit is 16 in CA plans, 36 in 5Y plans and 25 in MP plans. Narrowness of the benefit range in CA plans is coupled with the concentration of most of the frequency near the upper range. Thus, although one cannot expect too much from a CA plan, most are likely to receive near maximum benefits (or, expressed in the negative, all should fare equally badly). In contrast, the range of the distributions in 5Y plans is wide and dispersions are high. The fact remains, however, that 5Y plans are superior to CA plans in terms of implied benefits. According to Figure 8, for example, 88 per cent of the low termination sector will receive more than 16 in the 5Y plan under the rule service 10, while everyone will receive at most 16 in a CA plan even under full and immediate vesting.

Numerous other observations and comparisons can be made through the distributions and Lorenz curves. The above has been a demonstrative account of the effects of some of the more important variables on the distribution of benefits and related measures. The impacts of inflation and source of contributions will be outlined next.

Inflation and Source of Contributions

Results discussed so far are based on the most probable economic scenario and essentially non-contributory plans. To isolate the effects of inflation and source of contributions, expected lifetime pension benefits under different vesting rules were recomputed for age groups 25-60 and 25-65, using the low, most probable (medium), and high estimates for the rate of inflation, and contributory and non-contributory plans. (For details on economic assumptions and rates of contributory plans, see section 3.) The results are presented in Table 7.

The contributory-non-contributory distinction is irrelevant in MP plans. In defined benefit plans, increases in expected benefits from non-contributory to contributory modes are due to the computation of benefits in contributory plans as the greater of the accrued pension implied by the benefit formula or what the accumulated contribution would buy. The increases range to 17 per cent (excluding the rule service 1); are larger for higher rates of termination and inflation, larger in CA plans than in 5Y plans, and larger for the retirement age 65 than for 60. Also, in all cases, the increases are more pronounced under the vesting rule service 5. This last result is in support of the widely held belief that the contributions of the members defined benefit plans may buy much of the benefits they are entitled to during their younger years. Thus, in the absence of an age requirement for vesting, benefits creditable to earlier ages under the rule service 5 appear to have fallen short of what the contributions would buy (more so under this rule than others).

Table 7 also indicates decreases in expected benefits of 21 to 23 per cent and 29 to 33 per cent, respectively, from low to medium and from low to high rates of inflation in non-contributory CA plans for age group 25-60. Decreases in benefits are slightly smaller in contributory plans and for the retirement age 65. More stringent vesting rules and higher rates of termination do not appear to aggravate the impact of inflation. As expected, reductions in benefits due to inflation are considerably less in 5Y plans than in CA plans (6 to 10 per cent from low to medium and 18 to 26 per cent from low to high inflation for age group 25-60). And, in contrast to the defined benefit plans, expected benefits increase in MP plans together with the rate of inflation, evidently owing to the relatively cheaper annuities purchased at retirement (see Table 3). The increases are 3 per cent for age group 25-60 and 7 per cent for age group 25-65, from low to medium inflation; and, 7 per cent for age group 25-65, from low to medium inflation; and, 7 per cent for age group 25-60, and 20 per cent for age group 25-65, from low to high inflation.

Pension Costs

Pension costs were modelled through an adaptation to lifetime pension benefits of the "projected benefit cost method"; the version of this method that was used develops a normal cost that remains constant as a percentage of salary.(10) For every scenario, the model output included the total cost and the employer's cost, both expressed as a fraction of the present value of the payroll over the working life.

In Table 8, we present the total costs (employer cost plus employee cost in contributory plans) for age groups 25-60 and 25-65. As expected, costs are higher under lower rates of termination, more liberal vesting rules, contributory plans, 5Y plans (relative to CA plans), and the retirement age 60. It is also seen that the total costs in defined benefit plans decrease as the rate of inflation increases. As noted previously, although wages increase with inflation, vested benefits related to terminated employments do not in defined benefit plans. On the other hand, it is cheaper to maintain a constant level of benefit during post-retirement years when the interest rates are high.

Table 8 reveals that the relative incremental cost of liberalization would be larger in CA plans than in 5Y plans, in non-contributory than in contributory defined benefit plans, and for the retirement age 60 than for 65; these costs would also be larger in the higher termination sectors. In many if not most of the cases, however, increases in total costs are remarkably small.(11)

Employer costs are presented in Table 9. Very low entries under CA plans, especially for higher rates of inflation, should be noted. Comparative examinations of the entries in Tables 8 and 9 would also reveal the effects of other scenario variables. Such observations would be substantially similar to those already noted in relation to pension bene-

Table 7
Expected Pension Benefits (Inflation and Source of Contributions)

Termination rates	Vesting rules	Low Inflation											
		25-60						25-65					
		Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	9.28	15.86	10.80	9.28	15.86	10.80	14.89	27.02	19.00	14.89	27.02	19.00
	Service 10	9.65	16.35	11.60	9.66	16.35	11.60	15.30	27.58	20.19	15.43	27.61	20.19
	40 + 5	10.06	16.76	11.76	10.06	16.76	11.76	15.88	28.17	20.42	15.93	28.17	20.42
	Service 5	10.38	17.16	12.61	10.44	17.19	12.61	16.25	28.62	21.69	16.55	28.79	21.69
	Rule 50	10.35	17.08	12.09	10.35	17.08	12.09	16.28	28.60	20.94	16.37	28.61	20.94
	Rule 45	10.50	17.25	12.41	10.51	17.25	12.41	16.45	28.80	21.42	16.61	28.85	21.42
	Service 1	10.82	17.59	13.30	10.96	17.70	13.30	16.82	29.18	22.74	17.34	29.57	22.74
Medium	45 + 10	6.82	10.62	7.58	6.82	10.62	7.58	11.39	18.53	13.82	11.39	18.53	13.82
	Service 10	7.22	11.15	8.43	7.23	11.15	8.43	11.84	19.13	15.09	11.97	19.16	15.09
	40 + 5	8.40	12.39	9.36	8.40	12.39	9.36	13.58	20.96	16.63	13.65	20.97	16.63
	Service 5	8.83	12.89	10.45	8.90	12.93	10.45	14.07	21.54	18.25	14.45	21.77	18.25
	Rule 50	9.19	13.20	10.06	9.19	13.20	10.06	14.80	22.21	17.82	14.90	22.22	17.82
	Rule 45	9.55	13.59	10.72	9.56	13.59	10.72	15.21	22.65	18.81	15.41	22.74	18.81
	Service 1	10.21	14.27	12.41	10.45	14.48	12.41	15.96	23.43	21.31	16.84	24.17	21.31
High	45 + 10	4.23	6.14	4.53	4.23	6.14	4.53	7.41	11.08	8.61	7.41	11.08	8.61
	Service 10	4.51	6.50	5.10	4.51	6.50	5.10	7.72	11.49	9.47	7.80	11.51	9.47
	40 + 5	6.19	8.28	6.62	6.19	8.28	6.62	10.31	14.25	12.08	10.37	14.27	12.08
	Service 5	6.55	8.69	7.51	6.60	8.72	7.51	10.72	14.72	13.39	11.03	14.92	13.39
	Rule 50	7.66	9.76	7.80	7.66	9.76	7.80	12.71	16.66	14.24	12.77	16.67	14.24
	Rule 45	8.19	10.32	8.69	8.19	10.32	8.69	13.31	17.29	15.56	13.50	17.39	15.56
	Service 1	9.07	11.21	10.83	9.36	11.48	10.83	14.32	18.32	18.74	15.37	19.26	18.74

Table 7 (continued)

Termination rates	Vesting rules	Medium inflation											
		25-60						25-65					
		Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	8.10	14.92	11.10	8.10	14.92	11.10	13.33	26.32	20.27	13.41	26.32	20.27
	Service 10	8.37	15.31	11.93	8.44	15.32	11.93	13.65	26.77	21.55	13.98	26.90	21.55
	40 + 5	8.76	15.71	12.09	8.79	15.71	12.09	14.21	27.35	21.79	14.44	27.41	21.79
	Service 5	9.01	16.01	12.96	9.18	16.11	12.96	14.49	27.69	23.14	15.10	28.07	23.14
	Rule 50	9.02	15.99	12.43	9.07	15.99	12.43	14.58	27.74	22.35	14.87	27.85	22.35
	Rule 45	9.14	16.12	12.76	9.22	16.15	12.76	14.71	27.90	22.86	15.13	28.10	22.86
	Service 1	9.37	16.37	13.67	9.68	16.61	13.67	14.98	28.18	24.26	15.90	28.87	24.26
Medium	45 + 10	5.98	9.94	7.79	5.98	9.94	7.79	10.25	17.92	14.75	10.33	17.92	14.75
	Service 10	6.29	10.36	8.67	6.35	10.37	8.67	10.60	18.40	16.11	10.95	18.54	16.11
	40 + 5	7.36	11.50	9.63	7.39	11.50	9.63	12.21	20.13	17.74	12.53	20.25	17.74
	Service 5	7.68	11.88	10.75	7.90	12.01	10.75	12.58	20.56	19.47	13.38	21.10	19.47
	Rule 50	8.08	12.24	10.34	8.13	12.25	10.34	13.35	21.29	19.01	13.71	21.43	19.01
	Rule 45	8.37	12.55	11.03	8.47	12.58	11.03	13.68	21.64	20.07	14.27	21.98	20.07
	Service 1	8.86	13.06	12.76	9.38	13.50	12.76	14.23	22.21	22.74	15.79	23.51	22.74
High	45 + 10	3.73	5.72	4.66	3.73	5.72	4.66	6.70	10.66	9.19	6.76	10.66	9.19
	Service 10	3.94	6.00	5.25	3.98	6.01	5.25	6.94	10.98	10.11	7.17	11.08	10.11
	40 + 5	5.45	7.63	6.81	5.47	7.63	6.81	9.32	13.56	12.89	9.60	13.68	12.89
	Service 5	5.72	7.94	7.72	5.89	8.05	7.72	9.63	13.91	14.29	10.30	14.39	14.29
	Rule 50	6.80	8.99	8.02	6.83	8.99	8.02	11.57	15.81	15.20	11.86	15.94	15.20
	Rule 45	7.22	9.43	8.93	7.30	9.46	8.93	12.05	16.32	16.60	12.62	16.71	16.60
	Service 1	7.89	10.11	11.13	8.49	10.66	11.13	12.80	17.08	20.00	14.62	18.71	20.00

Table 7 (concluded)

Termination rates	Vesting rules	High inflation											
		25-60						25-65					
		Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	6.27	13.21	11.59	6.31	13.21	11.59	10.96	25.07	22.84	11.24	25.13	22.84
	Service 10	6.43	13.45	12.45	6.65	13.55	12.45	11.14	25.35	24.27	11.86	25.75	24.27
	40 + 5	6.78	13.83	12.62	6.93	13.87	12.62	11.67	25.92	24.55	12.26	26.21	24.55
	Service 5	6.92	14.00	13.53	7.32	14.27	13.53	11.82	26.11	26.07	12.98	26.93	26.07
	Rule 50	6.99	14.05	12.98	7.18	14.12	12.98	11.98	26.25	25.18	12.69	26.64	25.18
	Rule 45	7.06	14.13	13.32	7.33	14.27	13.32	12.06	26.35	25.75	12.96	26.92	25.75
	Service 1	7.19	14.27	14.27	7.80	14.75	14.27	12.20	26.50	27.33	13.82	27.77	27.33
Medium	45 + 10	4.67	8.71	8.13	4.71	8.71	8.13	8.48	16.85	16.61	8.84	16.95	16.61
	Service 10	4.85	8.98	9.05	5.08	9.08	9.05	8.69	17.15	18.14	9.50	17.61	18.14
	40 + 5	5.74	9.96	10.05	5.94	10.04	10.05	10.10	18.71	19.99	10.96	19.21	19.99
	Service 5	5.92	10.18	11.22	6.46	10.55	11.22	10.31	18.96	21.93	11.89	20.14	21.93
	Rule 50	6.35	10.58	10.80	6.58	10.67	10.80	11.11	19.73	21.42	12.09	20.34	21.42
	Rule 45	6.53	10.78	11.51	6.91	11.01	11.51	11.31	19.95	22.61	12.69	20.94	22.61
	Service 1	6.80	11.06	13.32	7.85	11.94	13.32	11.62	20.27	25.61	14.38	22.63	25.61
High	45 + 10	2.92	4.97	4.86	2.96	4.97	4.86	5.58	9.92	10.36	5.85	10.01	10.36
	Service 10	3.05	5.15	5.48	3.20	5.22	5.48	5.72	10.13	11.38	6.29	10.45	11.38
	40 + 5	4.28	6.51	7.11	4.46	6.60	7.11	7.77	12.39	14.52	8.56	12.90	14.52
	Service 5	4.44	6.69	8.06	4.88	7.02	8.06	7.94	12.60	16.10	9.32	13.67	16.10
	Rule 50	5.42	7.66	8.37	5.61	7.74	8.37	9.76	14.39	17.12	10.69	15.03	17.12
	Rule 45	5.70	7.95	9.33	6.07	8.21	9.33	10.07	14.72	18.71	11.53	15.88	18.71
	Service 1	6.08	8.34	11.62	7.30	9.44	11.62	10.50	15.15	22.52	13.75	18.10	22.52

Table 8
Total Pension Costs

Termination rates	Vesting rules	Low inflation											
		25-60						25-65					
		Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	3.64	6.22	4.24	4.25	6.83	5.08	3.22	5.84	4.11	3.85	6.47	5.02
	Service 10	3.78	6.42	4.55	4.28	6.91	5.23	3.31	5.96	4.37	3.87	6.50	5.14
	40 + 5	3.94	6.58	4.61	4.41	7.04	5.26	3.43	6.09	4.42	3.95	6.60	5.17
	Service 5	4.07	6.73	4.95	4.43	7.07	5.41	3.51	6.19	4.69	3.98	6.62	5.29
	Rule 50	4.06	6.70	4.74	4.47	7.11	5.32	3.52	6.18	4.53	4.00	6.65	5.22
	Rule 45	4.12	6.77	4.87	4.48	7.12	5.37	3.56	6.23	4.63	4.01	6.66	5.26
	Service 1	4.24	6.90	5.22	4.50	7.15	5.52	3.64	6.31	4.92	4.04	6.68	5.39
Medium	45 + 10	2.68	4.17	2.97	3.80	5.29	4.45	2.46	4.01	2.99	3.54	5.08	4.46
	Service 10	2.83	4.38	3.31	3.83	5.37	4.61	2.56	4.14	3.26	3.56	5.12	4.59
	40 + 5	3.29	4.86	3.67	4.14	5.70	4.78	2.94	4.53	3.60	3.79	5.37	4.75
	Service 5	3.46	5.06	4.10	4.16	5.74	4.98	3.04	4.66	3.95	3.82	5.40	4.91
	Rule 50	3.61	5.18	3.95	4.32	5.89	4.90	3.20	4.80	3.85	3.94	5.52	4.85
	Rule 45	3.75	5.33	4.21	4.35	5.93	5.01	3.29	4.90	4.07	3.96	5.54	4.95
	Service 1	4.00	5.60	4.87	4.40	5.98	5.29	3.45	5.07	4.61	4.01	5.60	5.18
High	45 + 10	1.66	2.41	1.78	3.28	4.03	3.86	1.60	2.40	1.86	3.15	3.95	3.91
	Service 10	1.77	2.55	2.00	3.31	4.09	3.97	1.67	2.49	2.05	3.17	3.97	4.00
	40 + 5	2.43	3.25	2.60	3.72	4.54	4.25	2.23	3.08	2.61	3.49	4.33	4.26
	Service 5	2.57	3.41	2.94	3.74	4.57	4.41	2.32	3.18	2.90	3.51	4.36	4.39
	Rule 50	3.00	3.83	3.06	4.07	4.90	4.43	2.75	3.60	3.08	3.78	4.62	4.45
	Rule 45	3.21	4.05	3.41	4.12	4.96	4.59	2.88	3.74	3.36	3.81	4.65	4.57
	Service 1	3.56	4.40	4.25	4.18	5.01	4.92	3.10	3.96	4.05	3.88	4.72	4.85

Table 8 (continued)

Termination rates	Vesting rules	Medium inflation											
		25-60						25-65					
		Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
	45 + 10	3.09	5.69	4.24	3.70	6.30	5.08	2.70	5.33	4.11	3.35	5.96	5.02
	Service 10	3.20	5.84	4.55	3.71	6.34	5.23	2.77	5.42	4.37	3.37	5.98	5.14
	40 + 5	3.34	5.99	4.61	3.82	6.46	5.26	2.88	5.54	4.42	3.44	6.06	5.17
Low	Service 5	3.44	6.11	4.95	3.83	6.48	5.41	2.94	5.61	4.69	3.46	6.09	5.29
	Rule 50	3.44	6.10	4.74	3.87	6.51	5.32	2.95	5.62	4.53	3.47	6.10	5.22
	Rule 45	3.49	6.15	4.87	3.88	6.52	5.37	2.98	5.65	4.63	3.48	6.11	5.26
	Service 1	3.58	6.25	5.22	3.90	6.54	5.52	3.03	5.71	4.92	3.51	6.14	5.39
	45 + 10	2.28	3.79	2.97	3.40	4.91	4.45	2.08	3.63	2.99	3.17	4.71	4.46
	Service 10	2.40	3.95	3.31	3.42	4.95	4.61	2.15	3.73	3.26	3.20	4.73	4.59
	40 + 5	2.81	4.39	3.67	3.66	5.23	4.78	2.48	4.08	3.60	3.38	4.94	4.75
Medium	Service 5	2.93	4.54	4.10	3.68	5.25	4.98	2.55	4.17	3.95	3.41	4.97	4.91
	Rule 50	3.08	4.67	3.95	3.82	5.39	4.90	2.71	4.31	3.85	3.50	5.06	4.85
	Rule 45	3.19	4.79	4.21	3.83	5.41	5.01	2.77	4.38	4.07	3.52	5.08	4.95
	Service 1	3.38	4.98	4.87	3.87	5.45	5.29	2.88	4.50	4.61	3.57	5.14	5.18
	45 + 10	1.42	2.18	1.78	3.05	3.81	3.86	1.36	2.16	1.86	2.92	3.71	3.91
	Service 10	1.50	2.29	2.00	3.06	3.83	3.97	1.41	2.23	2.05	2.93	3.73	4.00
	40 + 5	2.08	2.91	2.60	3.38	4.20	4.25	1.89	2.75	2.61	3.19	4.02	4.26
High	Service 5	2.18	3.03	2.94	3.40	4.22	4.41	1.95	2.82	2.90	3.22	4.04	4.39
	Rule 50	2.59	3.43	3.06	3.67	4.50	4.44	2.34	3.20	3.08	3.42	4.25	4.45
	Rule 45	2.76	3.60	3.41	3.70	4.52	4.59	2.44	3.31	3.36	3.45	4.28	4.57
	Service 1	3.01	3.86	4.25	3.75	4.58	4.92	2.59	3.46	4.05	3.52	4.35	4.66

Table 8 (concluded)

Termination rates	Vesting rules	High inflation											
		25-60						25-65					
		Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	2.29	4.83	4.24	2.89	5.41	5.08	1.97	4.51	4.11	2.61	5.11	5.02
	Service 10	2.35	4.92	4.55	2.90	5.42	5.23	2.00	4.56	4.37	2.63	5.13	5.14
	40 + 5	2.48	5.06	4.61	2.97	5.51	5.26	2.10	4.66	4.42	2.68	5.19	5.17
	Service 5	2.53	5.12	4.95	2.99	5.53	5.41	2.13	4.70	4.69	2.70	5.21	5.29
	Rule 50	2.55	5.14	4.74	3.01	5.55	5.32	2.16	4.72	4.53	2.71	5.22	5.22
	Rule 45	2.58	5.17	4.87	3.02	5.56	5.37	2.17	4.74	4.63	2.72	5.23	5.26
	Service 1	2.63	5.22	5.22	3.04	5.58	5.52	2.20	4.77	4.92	2.75	5.26	5.39
Medium	45 + 10	1.71	3.18	2.97	2.81	4.27	4.45	1.53	3.03	2.99	2.62	4.08	4.46
	Service 10	1.77	3.28	3.31	2.82	4.28	4.61	1.56	3.09	3.26	2.65	4.10	4.59
	40 + 5	2.10	3.64	3.67	2.99	4.48	4.78	1.82	3.37	3.60	2.77	4.26	4.75
	Service 5	2.17	3.72	4.10	3.01	4.51	4.98	1.85	3.41	3.95	2.80	4.29	4.91
	Rule 50	2.32	3.87	3.95	3.10	4.59	4.90	2.00	3.55	3.85	2.86	4.34	4.86
	Rule 45	2.39	3.94	4.21	3.11	4.61	5.01	2.04	3.59	4.07	2.88	4.36	4.95
	Service 1	2.49	4.04	4.87	3.15	4.65	5.29	2.09	3.65	4.61	2.93	4.42	5.18
High	45 + 10	1.07	1.82	1.78	2.67	3.40	3.86	1.00	1.79	1.86	2.55	3.30	3.91
	Service 10	1.12	1.88	2.00	2.68	3.41	3.97	1.03	1.82	2.05	2.57	3.32	4.00
	40 + 5	1.57	2.38	2.60	2.90	3.68	4.25	1.40	2.23	2.61	2.75	3.53	4.26
	Service 5	1.62	2.45	2.94	2.91	3.69	4.41	1.43	2.27	2.90	2.77	3.55	4.39
	Rule 50	1.98	2.80	3.06	3.09	3.87	4.44	1.76	2.59	3.08	2.91	3.69	4.45
	Rule 45	2.08	2.91	3.41	3.11	3.89	4.59	1.81	2.65	3.37	2.93	3.72	4.57
	Service 1	2.22	3.05	4.25	3.16	3.94	4.92	1.89	2.73	4.05	3.01	3.79	4.85

Table 9
Employer Costs

Termination rates	Vesting rules	Low inflation											
		25-60						25-65					
		Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	3.64	6.22	4.24	1.75	4.33	2.08	3.22	5.84	4.11	1.35	3.97	2.02
	Service 10	3.78	6.42	4.55	1.78	4.41	2.23	3.31	5.96	4.37	1.37	4.00	2.14
	40 + 5	3.94	6.58	4.61	1.91	4.54	2.26	3.43	6.09	4.42	1.45	4.10	2.17
	Service 5	4.07	6.73	4.95	1.93	4.57	2.41	3.51	6.19	4.69	1.48	4.12	2.29
	Rule 50	4.06	6.70	4.74	1.97	4.61	2.32	3.52	6.18	4.53	1.50	4.15	2.22
	Rule 45	4.12	6.77	4.87	1.98	4.62	2.37	3.56	6.23	4.63	1.51	4.16	2.26
	Service 1	4.24	6.90	5.22	2.00	4.65	2.52	3.64	6.31	4.92	1.54	4.18	2.39
Medium	45 + 10	2.68	4.17	2.97	1.30	2.79	1.45	2.46	4.01	2.99	1.04	2.58	1.46
	Service 10	2.83	4.38	3.31	1.33	2.87	1.61	2.56	4.14	3.26	1.06	2.62	1.59
	40 + 5	3.29	4.86	3.67	1.64	3.20	1.78	2.94	4.53	3.60	1.29	2.87	1.75
	Service 5	3.46	5.06	4.10	1.66	3.24	1.98	3.04	4.66	3.95	1.32	2.90	1.91
	Rule 50	3.61	5.18	3.95	1.82	3.39	1.90	3.20	4.80	3.85	1.44	3.02	1.85
	Rule 45	3.75	5.33	4.21	1.85	3.43	2.01	3.29	4.90	4.07	1.46	3.04	1.95
	Service 1	4.00	5.60	4.87	1.90	3.48	2.29	3.45	5.07	4.61	1.51	3.10	2.18
High	45 + 10	1.66	2.41	1.78	.78	1.53	.86	1.60	2.40	1.86	.65	1.45	.91
	Service 10	1.77	2.55	2.00	.81	1.59	.97	1.67	2.49	2.05	.67	1.47	1.00
	40 + 5	2.43	3.25	2.60	1.22	2.04	1.25	2.23	3.08	2.61	.99	1.83	1.26
	Service 5	2.57	3.41	2.94	1.24	2.07	1.41	2.32	3.18	2.90	1.01	1.86	1.39
	Rule 50	3.00	3.83	3.06	1.57	2.40	1.43	2.75	3.60	3.08	1.28	2.12	1.45
	Rule 45	3.21	4.05	3.41	1.62	2.46	1.59	2.88	3.74	3.36	1.31	2.15	1.57
	Service 1	3.56	4.40	4.25	1.68	2.51	1.92	3.10	3.96	4.05	1.38	2.22	1.85

Table 9 (continued)

Termination rates	Vesting rules	Medium inflation											
		25-60						25-65					
		Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
	45 + 10	3.09	5.69	4.24	1.20	3.80	2.08	2.70	5.33	4.11	.85	3.46	2.02
	Service 10	3.20	5.84	4.55	1.21	3.84	2.23	2.77	5.42	4.37	.87	3.48	2.14
	40 + 5	3.34	5.99	4.61	1.32	3.96	2.26	2.88	5.54	4.42	.94	3.56	2.17
Low	Service 5	3.44	6.11	4.95	1.33	3.98	2.41	2.94	5.61	4.69	.96	3.59	2.29
	Rule 50	3.44	6.10	4.74	1.37	4.01	2.32	2.95	5.62	4.53	.97	3.60	2.22
	Rule 45	3.49	6.15	4.87	1.38	4.02	2.37	2.98	5.65	4.63	.98	3.61	2.26
	Service 1	3.58	6.25	5.22	1.40	4.04	2.52	3.03	5.71	4.92	1.01	3.64	2.39
	45 + 10	2.28	3.79	2.97	.90	2.41	1.45	2.08	3.63	2.99	.67	2.21	1.46
	Service 10	2.40	3.95	3.31	.92	2.45	1.61	2.15	3.73	3.26	.70	2.23	1.59
	40 + 5	2.81	4.39	3.67	1.16	2.73	1.78	2.48	4.08	3.60	.88	2.44	1.75
Medium	Service 5	2.93	4.54	4.10	1.18	2.75	1.98	2.55	4.17	3.95	.91	2.47	1.91
	Rule 50	3.08	4.67	3.95	1.32	2.89	1.90	2.71	4.31	3.85	1.00	2.56	1.85
	Rule 45	3.19	4.79	4.21	1.33	2.91	2.01	2.77	4.38	4.07	1.02	2.58	1.95
	Service 1	3.38	4.98	4.87	1.37	2.95	2.29	2.88	4.50	4.61	1.07	2.64	2.18
	45 + 10	1.42	2.18	1.78	.55	1.31	.86	1.36	2.16	1.86	.42	1.21	.91
	Service 10	1.50	2.29	2.00	.56	1.33	.97	1.41	2.23	2.05	.43	1.23	1.00
	40 + 5	2.08	2.91	2.60	.88	1.70	1.25	1.89	2.75	2.61	.69	1.52	1.26
High	Service 5	2.18	3.03	2.94	.90	1.72	1.41	1.95	2.82	2.90	.72	1.54	1.39
	Rule 50	2.59	3.43	3.06	1.17	2.00	1.44	2.34	3.20	3.08	.92	1.75	1.45
	Rule 45	2.76	3.60	3.41	1.20	2.02	1.59	2.44	3.31	3.36	.95	1.78	1.57
	Service 1	3.01	3.86	4.25	1.25	2.08	1.92	2.59	3.46	4.05	1.02	1.85	1.85

Table 9 (concluded)

Termination rates	Vesting rules	High inflation											
		25-60						25-65					
		Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
	45 + 10	2.29	4.83	4.24	.39	2.91	2.08	1.97	4.51	4.11	.11	2.61	2.02
	Service 10	2.35	4.92	4.55	.40	2.92	2.23	2.00	4.56	4.37	.13	2.63	2.14
	40 + 5	2.48	5.06	4.61	.47	3.01	2.26	2.10	4.66	4.42	.18	2.69	2.17
Low	Service 5	2.53	5.12	4.95	.49	3.03	2.41	2.13	4.70	4.69	.20	2.71	2.29
	Rule 50	2.55	5.14	4.74	.51	3.05	2.32	2.16	4.72	4.53	.21	2.72	2.22
	Rule 45	2.58	5.17	4.87	.52	3.06	2.37	2.17	4.74	4.63	.22	2.73	2.26
	Service 1	2.63	5.22	5.22	.54	3.08	2.52	2.20	4.77	4.92	.25	2.76	2.39
	45 + 10	1.71	3.18	2.97	.31	1.77	1.45	1.53	3.03	2.99	.12	1.58	1.46
	Service 10	1.77	3.28	3.31	.32	1.78	1.61	1.56	3.09	3.26	.15	1.60	1.59
	40 + 5	2.10	3.64	3.67	.49	1.98	1.78	1.82	3.37	3.60	.27	1.76	1.75
Medium	Service 5	2.17	3.72	4.10	.51	2.01	1.98	1.85	3.41	3.95	.30	1.79	1.91
	Rule 50	2.32	3.87	3.95	.60	2.09	1.90	2.00	3.55	3.85	.36	1.84	1.86
	Rule 45	2.39	3.94	4.21	.61	2.11	2.01	2.04	3.59	4.07	.38	1.86	1.95
	Service 1	2.49	4.04	4.87	.65	2.15	2.29	2.09	3.65	4.61	.43	1.92	2.18
	45 + 10	1.07	1.82	1.78	.17	.90	.86	1.00	1.79	1.86	.05	.80	.91
	Service 10	1.12	1.88	2.00	.18	.91	.97	1.03	1.82	2.05	.07	.82	1.00
	40 + 5	1.57	2.38	2.60	.40	1.18	1.25	1.40	2.23	2.61	.25	1.03	1.26
High	Service 5	1.62	2.45	2.94	.41	1.19	1.41	1.43	2.27	2.90	.27	1.05	1.39
	Rule 50	1.98	2.80	3.06	.59	1.37	1.44	1.76	2.59	3.08	.41	1.19	1.45
	Rule 45	2.08	2.91	3.41	.61	1.39	1.59	1.81	2.65	3.37	.43	1.22	1.57
	Service 1	2.22	3.05	4.25	.66	1.44	1.92	1.89	2.73	4.05	.51	1.29	1.65

Table 10
Employer Costs with .6 Higher Rates of Return

Termination rates	Vesting rules	Low inflation											
		25-60						25-65					
		Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	3.18	5.43	4.19	1.28	3.54	2.06	2.76	5.02	4.05	.99	3.13	1.99
	Service 10	3.30	5.60	4.52	1.30	3.59	2.22	2.84	5.12	4.33	.91	3.16	2.12
	40 + 5	3.44	5.74	4.57	1.41	3.70	2.23	2.95	5.23	4.36	.98	3.24	2.14
	Service 5	3.56	5.87	4.92	1.43	3.73	2.40	3.02	5.31	4.66	1.00	3.26	2.28
	Rule 50	3.54	5.85	4.70	1.46	3.76	2.29	3.02	5.31	4.48	1.02	3.28	2.19
	Rule 45	3.59	5.91	4.83	1.47	3.77	2.35	3.05	5.35	4.59	1.03	3.29	2.24
	Service 1	3.70	6.02	5.20	1.49	3.79	2.52	3.12	5.42	4.89	1.06	3.32	2.37
Medium	45 + 10	2.34	3.64	2.92	.95	2.25	1.43	2.11	3.44	2.93	.69	2.01	1.43
	Service 10	2.47	3.82	3.27	.97	2.31	1.60	2.20	3.55	3.22	.71	2.03	1.57
	40 + 5	2.88	4.24	3.61	1.22	2.59	1.75	2.52	3.89	3.53	.89	2.24	1.71
	Service 5	3.02	4.41	4.07	1.25	2.62	1.96	2.61	4.00	3.90	.93	2.27	1.89
	Rule 50	3.15	4.52	3.87	1.38	2.75	1.86	2.75	4.12	3.77	1.01	2.36	1.82
	Rule 45	3.27	4.65	4.14	1.40	2.77	1.98	2.82	4.20	4.00	1.03	2.38	1.92
	Service 1	3.49	4.88	4.85	1.45	2.81	2.28	2.96	4.35	4.58	1.10	2.44	2.16
High	45 + 10	1.45	2.10	1.74	.56	1.22	.84	1.37	2.06	1.81	.41	1.09	.88
	Service 10	1.54	2.22	1.97	.58	1.25	.96	1.43	2.13	2.01	.43	1.11	.98
	40 + 5	2.12	2.84	2.54	.91	1.63	1.22	1.91	2.65	2.54	.69	1.40	1.23
	Service 5	2.24	2.98	2.91	.93	1.65	1.39	1.99	2.73	2.85	.72	1.43	1.37
	Rule 50	2.62	3.34	2.97	1.21	1.93	1.40	2.36	3.09	2.98	.93	1.64	1.40
	Rule 45	2.80	3.53	3.33	1.25	1.96	1.55	2.47	3.21	3.28	.95	1.66	1.53
	Service 1	3.10	3.84	4.22	1.30	2.02	1.91	2.66	3.40	4.02	1.03	1.74	1.83

Table 10 (continued)

Termination rates	Vesting rules	Medium inflation											
		25-60						25-65					
		Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
	45 + 10	2.70	4.98	4.19	.81	3.09	2.06	2.33	4.59	4.06	.47	2.72	1.99
	Service 10	2.80	5.11	4.52	.83	3.11	2.22	2.38	4.67	4.33	.49	2.74	2.13
	40 + 5	2.93	5.25	4.57	.91	3.21	2.23	2.48	4.77	4.36	.55	2.80	2.14
Low	Service 5	3.01	5.35	4.92	.93	3.23	2.40	2.53	4.83	4.66	.57	2.83	2.28
	Rule 50	3.01	5.34	4.70	.96	3.26	2.29	2.54	4.84	4.48	.58	2.84	2.19
	Rule 45	3.05	5.39	4.83	.96	3.27	2.35	2.57	4.87	4.59	.59	2.85	2.24
	Service 1	3.13	5.47	5.20	.98	3.29	2.52	2.61	4.92	4.90	.62	2.88	2.37
	45 + 10	2.00	3.32	2.92	.62	1.94	1.43	1.79	3.13	2.93	.39	1.70	1.43
	Service 10	2.10	3.46	3.27	.63	1.96	1.60	1.85	3.21	3.22	.41	1.72	1.57
	40 + 5	2.46	3.84	3.61	.83	2.19	1.75	2.13	3.51	3.53	.56	1.89	1.71
Medium	Service 5	2.57	3.97	4.07	.85	2.22	1.96	2.20	3.59	3.90	.59	1.93	1.89
	Rule 50	2.70	4.09	3.87	.96	2.32	1.86	2.33	3.72	3.77	.66	1.99	1.82
	Rule 45	2.80	4.19	4.14	.98	2.34	1.98	2.39	3.78	4.00	.68	2.01	1.92
	Service 1	2.96	4.36	4.85	1.02	2.38	2.28	2.48	3.88	4.58	.74	2.07	2.16
	45 + 10	1.24	1.91	1.74	.36	1.02	.84	1.17	1.86	1.81	.23	.90	.88
	Service 10	1.31	2.01	1.97	.37	1.04	.96	1.21	1.92	2.01	.24	.91	.98
	40 + 5	1.82	2.55	2.54	.64	1.35	1.22	1.63	2.37	2.54	.45	1.16	1.23
High	Service 5	1.91	2.65	2.91	.66	1.37	1.39	1.68	2.43	2.85	.48	1.18	1.37
	Rule 50	2.27	3.00	2.98	.88	1.59	1.40	2.02	2.76	2.99	.64	1.35	1.40
	Rule 45	2.41	3.15	3.33	.90	1.61	1.55	2.10	2.85	3.28	.67	1.37	1.53
	Service 1	2.63	3.38	4.22	.96	1.67	1.91	2.23	2.98	4.02	.75	1.45	1.83

Table 10 (concluded)

Termination rates	Vesting rules	High inflation											
		25-60						25-65					
		Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	2.02	4.25	4.19	.12	2.33	2.06	1.71	3.91	4.06	-.15	2.01	1.99
	Service 10	2.07	4.33	4.52	.13	2.34	2.22	1.74	3.95	4.33	-.13	2.03	2.13
	40 + 5	2.18	4.45	4.57	.19	2.42	2.24	1.82	4.04	4.37	-.09	2.08	2.14
	Service 5	2.23	4.51	4.92	.21	2.44	2.40	1.84	4.07	4.66	-.06	2.10	2.28
	Rule 50	2.25	4.52	4.70	.22	2.45	2.29	1.87	4.09	4.48	-.06	2.11	2.19
	Rule 45	2.27	4.55	4.83	.23	2.46	2.36	1.88	4.11	4.59	-.05	2.11	2.24
	Service 1	2.31	4.59	5.20	.25	2.48	2.52	1.90	4.13	4.90	-.02	2.15	2.37
Medium	45 + 10	1.50	2.80	2.92	.11	1.39	1.43	1.32	2.63	2.93	-.08	1.18	1.43
	Service 10	1.56	2.89	3.27	.12	1.40	1.60	1.35	2.67	3.22	-.05	1.20	1.57
	40 + 5	1.85	3.21	3.61	.26	1.57	1.75	1.58	2.92	3.53	.05	1.33	1.72
	Service 5	1.91	3.28	4.07	.28	1.59	1.97	1.61	2.96	3.90	.08	1.36	1.89
	Rule 50	2.04	3.41	3.88	.35	1.66	1.86	1.73	3.08	3.78	.12	1.40	1.82
	Rule 45	2.10	3.47	4.15	.37	1.68	1.98	1.76	3.11	4.00	.14	1.42	1.92
	Service 1	2.19	3.56	4.85	.41	1.72	2.28	1.81	3.16	4.58	.20	1.48	2.16
High	45 + 10	.94	1.60	1.74	.04	.68	.85	.87	1.55	1.81	-.08	.56	.88
	Service 10	.98	1.66	1.97	.05	.69	.96	.89	1.58	2.01	-.07	.57	.98
	40 + 5	1.38	2.10	2.54	.23	.91	1.22	1.21	1.93	2.55	.08	.75	1.23
	Service 5	1.43	2.15	2.91	.25	.93	1.39	1.24	1.96	2.85	.11	.78	1.37
	Rule 50	1.75	2.47	2.98	.40	1.08	1.40	1.52	2.24	2.99	.22	.89	1.40
	Rule 45	1.84	2.56	3.33	.41	1.09	1.55	1.57	2.29	3.28	.24	.91	1.53
	Service 1	1.96	2.69	4.22	.47	1.15	1.91	1.64	2.36	4.02	.32	.99	1.83

fits. Employer costs are also presented in Table 10 using .6 higher rates of return than before. Evidently, higher rates of return on investment would decrease employer costs marginally in MP plans but substantially in defined benefit plans. In fact, some of the entries in Table 10 are negative, implying that the employee contributions alone (2.5 per cent of the payroll) would be more than sufficient to subsidize the projected benefits under certain circumstances.

4. CONCLUSIONS

In the foregoing, three basic plans were examined under various economic assumptions and vesting rules, for employees with different mobility characteristics and periods of participation in the labour force. The analysis was based on probabilistic models designed to characterize the ultimate benefit to be derived by a typical employee (or by a group of similar employees) from his or her career membership in pension plans. The ensuing pension costs were also modelled and computed by an adaptation of the projected benefit cost method to lifetime pension benefits. The results presented and discussed in the paper have important implications regarding the current status of the private pension system in Ontario, and the expected consequences of more liberal vesting rules.

On the basis of the results obtained, arguments that can be put forward regarding the virtues and limitations of alternative vesting rules must be preceded by an assessment of the plan types examined in the paper in terms of employee benefits, employer costs, as well as the social objectives of the government, which supports these plans through tax expenditures. Although the employers are primarily concerned with the magnitude and unpredictability of pension costs as a function of the payroll, the main issues of importance for the employees have been the existence and value of private pension benefits. On the other hand, in addition to the questions of distributional equity, the government is concerned with the overall well-being of the private pension system as a regulator (provincial level) and as a subsidizer (federal and provincial levels).

From the employees' perspective, defined benefit plans have a number of important drawbacks. First, pension benefits under CA plans deteriorate rapidly with inflation, as the accrual of pension is based on past wages. The prospects are somewhat better in 5Y plans where, although benefits related to previous employments would also erode rapidly with inflation, current job benefits would exhibit a good follow-up. Accrued pension benefits are fully protected from inflation only in MP plans in which both past and current benefits increase with interest rates reflecting inflation (Table 7). Secondly, and substantially for the same reasons, defined benefit plans (especially CA plans) are not "age neutral" because benefits for younger workers are lower in value than for older workers. Although there have been some proposals to eliminate age-related pension benefit differentials, it appears impossible

to construct age-neutral defined benefit plans.(12) In contrast, money purchase plans, in which the employer contributes a fixed percentage of employee earnings, are clearly age-neutral. It should be noted, however, that benefit differentials due to age would prevail even in MP plans, except under full and immediate vesting, so long as termination rates decrease with age.

In addition to being very sensitive to inflation and age, pension benefits under CA plans are not well related to the current economic status of the worker, for wages grow but past benefits do not (Figure 3). This relationship is improved in MP and 5Y plans where, in the latter, current job benefits are based on final earnings. Also, in relation to other forms of saving, the comparative value of benefits in CA plans is difficult to ascertain for the average worker; such a comparison should necessarily involve annuities. This difficulty is compounded in 5Y plans because of wage growth in the current job. In MP plans, on the other hand, accrued pension benefits are readily comparable with other assets.

As to the relative advantages to the workers of defined benefit plans, it might be noted that such schemes promise a fixed benefit rate, not a fixed contribution rate as in MP plans. Evidently, the latter would increase the uncertainties about future benefits. It is also true that the accrued benefit is easily comparable with current wage in defined benefit plans but not in MP plans, where it is necessary to go back through annuities. Such advantages, however, fall short of explaining the relative popularity of defined benefit plans in Ontario and elsewhere in North America.

Money purchase plans offer notable advantages for employers also. For one thing, cost of a defined benefit plan fluctuates with economic conditions (Tables 9 and 10), as the cost of the annuity depends on the prevailing rate of return on investment, while the cost of a MP plan has a known upper bound implied by the rate of contribution. In addition, defined benefit plans are difficult to cost for the firm because of uncertainties involved in the projection of economic conditions, termination rates, and wages.(13) Costing of a MP plan, on the other hand, is almost immediate.

In defined benefit plans, there may be incentives for the firms to formulate hiring and retention policies that are discriminatory to older workers, because such plans are not age-neutral and pension costs are relatively higher for older workers; such incentives would be more pronounced in final earnings plans under which the employers may expect the largest relative reductions in mobility.(14) As pointed out in the discussion of pension benefits, 5Y plans are highly sensitive to rates of termination, followed by MP and CA plans.

From the point of view of the government, distribution of pension income across the retired workers of comparable pre-retirement economic

status would be most equitable and uniform under CA plans. At the other extremes are the 5Y plans with highest distributional dispersions, with MP plans falling somewhere in between (see Tables 5 and 6 for coefficients of variation and Gini coefficients). The same relative ranking of the three plan types also prevails in relation to the efficient allocation of labour, as CA plans place the lowest restriction on mobility and 5Y plans the highest. In terms of preserving the purchasing power of the pension income relative to the earnings of comparable non-retired workers, however, CA plans are inferior to both 5Y and MP plans. In this regard, a comparison between the last two types of plan would depend on when changes in economic conditions (i.e., wage growth, interest rate) take place and on the timing of annuity purchases. Finally, in relation to the impact of regulation through statutory vesting rules, it has been established that CA and MP plans are highly sensitive but 5Y plans are relatively neutral to vesting provisions.

These observations are summarized in Table 11 which also includes ordinal ranking of the three plans through various criteria of importance to workers, employers, and the government. Two conclusion emerge: overall, MP plans best serve the interests of all three economic agents; the impact of vesting rules cannot be isolated from and thus should be assessed independent of plan types. In turn, the latter issue must be addressed from two different directions: incremental changes in pension-related measures induced by alternative forms of more liberal vesting provisions in different plans; and comparative effects in different plans of delayed vesting characterized by these alternatives relative to full and immediate vesting.

Some of the results reported in Section 4 are reproduced in Tables 12 and 13 as multiples of the corresponding values under the rule 45 and 10 in defined benefit plans.(15) It is apparent that liberalization of vesting rules would have a larger impact on CA plans and in higher termination sectors. It is also apparent that removing the age requirement from the current statutory vesting rule 45 and 10 would result in marginal increases in costs and benefits and equally modest improvements in the distribution of benefits in defined benefit plans. Rule 40 and 5 or service 5 would result in comparable moderate increases in costs and benefits, and a more substantial liberalization can be achieved through rule 50 or rule 45.

The rationale in arriving at better regulatory alternatives should not be based, however, largely on considerations relative to current vesting standards. More important are the relativities with respect to ultimate benefits and costs under full and immediate vesting which has been characterized in this study by the rule service 1. Performances of different vesting rules relative to this form of vesting are also given in Tables 12 and 13 in terms of cost, benefit, and Gini ratios in defined benefit plans. It is interesting to observe that the effects of the rules service 5 and 40 and 5 in CA plans are comparable to the effects of service 10 and 45 and 10 in 5Y plans. A comparative examina-

Table 11
Assessment and Ordinal Rank of Plan Types in Terms of Various Factors/Criteria

Economic agent	Factor/criterion	Assessment (ordinal rank) of plan		
		CA	5Y	MP
Worker	(1) Inflation	Fast deterioration of previous and current benefits (3)	Fast deterioration of previous, good follow-up by current job benefits (2)	Increase of past and current benefits with interest rate reflecting inflation (1)
	(2) Aged related benefit differentials	Very high age-related pension differentials (3)	High differentials with partial smoothing by current job benefits (2)	Differentials due only to vest-rules and termination rates (1)
	(3) Comparability with current economic status	Very weak follow-up (3)	Comparability of 5Y with MP depends heavily on the timing of changes in terms of wage growth, interest rate, and annuity purchase; it may go either way (1-2)	
	(4) Comparability with current wage	Easy (2)	Easy (1)	Difficult, must be backtracked through annuities (3)
	(5) Comparability with other assets	Difficult, should be based on annuities (2)	Difficult, should be based on annuities and wage growth in current job (3)	Immediate (1)
Firm	(6) Cost	Variable, depending on inflation (2)	Very variable, depending on inflation and promotion (3)	Known upper bound - rate of contribution (1)
	(7) Costing of plan	Difficult except under PTCM - hard projection of economic conditions (2)	Difficult - very hard projection of economic conditions, termination rates, and wage growth (3)	Almost immediate (1)
	(8) Labour mobility	Small relative reduction (3)	Large relative reduction as past years in current job are upped (1)	Small relative reduction (2)
	(9) Cost differentials related to hiring age	High differentials (2)	Very high differential due to wage at termination (3)	Small differentials due only to interaction of vesting rules and termination rates (1)
Government	(10) Equitable distribution of pension wealth	Lowest gini and coefficient of variation (1)	Highest gini and coefficient of variation (3)	Moderate distributional indexes (2)
	(11) Comparability of retired to non-retired	Inferior to 5Y (3)	Comparability of 5Y with MP depends heavily on the timing of changes in terms of wage growth, interest rate, and annuity purchase; it may go either way (1-2)	
	(12) Efficient allocation of labour	Less restriction on mobility is probably best (1)	High restriction on mobility (3)	Medium restriction on mobility (2)

Table 12
Selected Measures for Career Average Plans Indexed on the Corresponding Values under the Rules 45 and 10 and Service 1

Termination rates	Vesting rules	Expected benefit (total cost) in non-contributory plans	Gini index in non-contributory plans	Expected cost in contributory plans	
				Total	Employer
Low	45 and 10	1.00 (.89)	1.00 (10.00)	1.00 (.95)	1.00 (.86)
	Service 10	1.02 (.91)	.86 (9.00)	1.01 (.96)	1.02 (.86)
	40 and 5	1.07 (.95)	.49 (5.00)	1.03 (.98)	1.11 (.93)
	Service 5	1.09 (.97)	.39 (4.00)	1.03 (.99)	1.13 (.95)
	Rule 50	1.09 (.97)	.29 (3.00)	1.04 (.99)	1.15 (.96)
	Rule 45	1.10 (.98)	.23 (2.00)	1.04 (.99)	1.16 (.97)
	Service 1	1.12 (1.00)	.10 (1.00)	1.05 (1.00)	1.19 (1.00)
Medium	45 and 10	1.00 (.72)	1.00 (6.50)	1.00 (.89)	1.00 (.63)
	Service 10	1.03 (.74)	.94 (6.00)	1.01 (.90)	1.03 (.65)
	40 and 5	1.19 (.86)	.50 (3.25)	1.06 (.95)	1.30 (.82)
	Service 5	1.23 (.88)	.46 (3.00)	1.07 (.96)	1.35 (.85)
	Rule 50	1.30 (.94)	.25 (1.50)	1.10 (.98)	1.48 (.93)
	Rule 45	1.33 (.96)	.20 (1.25)	1.11 (.99)	1.51 (.95)
	Service 1	1.39 (1.00)	.15 (1.00)	1.13 (1.00)	1.60 (1.00)
High	45 and 10	1.00 (.52)	1.00 (6.71)	1.00 (.83)	1.00 (.41)
	Service 10	1.04 (.54)	.97 (6.43)	1.01 (.83)	1.04 (.42)
	40 and 5	1.39 (.73)	.54 (3.57)	1.09 (.91)	1.65 (.68)
	Service 5	1.44 (.75)	.51 (3.43)	1.10 (.91)	1.71 (.71)
	Rule 50	1.73 (.90)	.22 (1.43)	1.17 (.97)	2.20 (.90)
	Rule 45	1.80 (.94)	.19 (1.29)	1.18 (.98)	2.26 (.93)
	Service 1	1.91 (1.00)	.15 (1.00)	1.21 (1.00)	2.43 (1.00)

Table 13
Selected Measures for Last Five Years' Average Plans Indexed on the Corresponding Values under the Rules 45 and 10 and Service 1

Termination rates	Vesting rules	Expected benefit (total cost) in non-contributory plans	Gini index in non-contributory plans	Expected cost in contributory plans	
				Total	Employer
	45 and 10	1.00 (.93)	1.00 (1.46)	1.00 (.97)	1.00 (.95)
	Service 10	1.02 (.95)	.93 (1.31)	1.00 (.97)	1.01 (.96)
	40 and 5	1.04 (.97)	.81 (1.15)	1.02 (.99)	1.03 (.98)
Low	Service 5	1.05 (.98)	.77 (1.08)	1.02 (.99)	1.04 (.99)
	Rule 50	1.05 (.98)	.74 (1.08)	1.02 (.99)	1.04 (.99)
	Rule 45	1.06 (.99)	.72 (1.00)	1.03 (1.00)	1.04 (.99)
	Service 1	1.07 (1.00)	.68 (1.00)	1.03 (1.00)	1.05 (1.00)
	45 and 10	1.00 (.81)	1.00 (2.00)	1.00 (.92)	1.00 (.84)
	Service 10	1.03 (.83)	.95 (1.94)	1.00 (.92)	1.01 (.84)
	40 and 5	1.12 (.91)	.71 (1.41)	1.05 (.96)	1.10 (.92)
Medium	Service 5	1.15 (.93)	.68 (1.35)	1.06 (.97)	1.12 (.94)
	Rule 50	1.19 (.96)	.57 (1.18)	1.07 (.98)	1.16 (.97)
	Rule 45	1.21 (.97)	.54 (1.12)	1.08 (.99)	1.17 (.98)
	Service 1	1.24 (1.00)	.50 (1.00)	1.09 (1.00)	1.19 (1.00)
	45 and 10	1.00 (.62)	1.00 (2.74)	1.00 (.85)	1.00 (.65)
	Service 10	1.03 (.64)	.97 (2.68)	1.00 (.86)	1.01 (.66)
	40 and 5	1.27 (.79)	.65 (1.79)	1.08 (.92)	1.25 (.82)
High	Service 5	1.30 (.81)	.63 (1.74)	1.09 (.93)	1.28 (.83)
	Rule 50	1.48 (.93)	.43 (1.16)	1.15 (.98)	1.45 (.95)
	Rule 45	1.53 (.95)	.40 (1.11)	1.15 (.98)	1.47 (.96)
	Service 1	1.60 (1.00)	.37 (1.00)	1.17 (1.00)	1.53 (1.00)

tion of the Gini ratios reveals, also, that the previously noted high distributional inequities in 5Y plans are primarily due to the plan type, while in CA plans the main negative factor is the vesting rule. Therefore, if the new regulatory guidelines in relation to delayed vesting are to balance the impacts of different plan types, statutory vesting rules applicable to CA plans ought to be more liberal than those applicable to final earnings plans.

It is also clear from these results that both rule 50 and rule 45 approximate, in effect, full and immediate vesting in defined benefit plans, except in relation to distributional equity. These rules, however, would create additional complications for workers and firms in their valuation of the defined benefit pension scheme. More importantly, they would further the negative effects of age-dependent pension differentials by providing additional incentives for the firms to formulate hiring policies that are discriminatory to older workers.

Table 14 shows that the impact of alternative forms of liberalization on MP plans would be comparable, in general, to that observed in CA plans with an important qualification that the age requirement is much more influential in MP plans than in defined benefit plans. On the other hand, more is lost due to vesting in MP plans. In fact, it is seen through measures relative to service 1 that the performance of service 5 in MP plans is remarkably similar to the performance of 40 and 5 in CA plans.

In conclusion, growth of defined contribution (money purchase) plans should be encouraged as the most important means of reforming the private pension system in Ontario. In terms of the alternatives examined in this paper, vesting rules should not be more restrictive than service 5 in defined contribution plans and 40 and 5 in defined benefit career average plans; a more stringent benchmark may be considered for defined benefit final earnings plans. Since defined benefit plans are not restricted to career average and last five years' average modes (in fact, these are extreme forms) the latter differentiation leads to the perhaps undesirable prospect of prescribing a different vesting rule for every benefit formula. The rule 50 and 5 could, therefore, be adopted for all defined benefit plans and the rule service 5 for all defined contribution plans. If a single statutory minimum provision is to replace the rule 45 and 10 in all plans, then the most appropriate choice appears to be the rule service 5.

Table 14
Selected Measures for Money Purchase Plans Indexed on the Corresponding Values under the Rules 45 and 10 and Service 1

Termination rates	Vesting rules	Expected benefit (total cost) in non-contributory plans	Gini index in non-contributory plans	Expected cost in contributory plans	
				Total	Employer
	45 and 10	1.00 (.84)	1.00 (7.00)	1.00 (.93)	1.00 (.85)
	Service 10	1.06 (.89)	.71 (5.00)	1.02 (.95)	1.06 (.90)
	40 and 5	1.08 (.90)	.62 (4.50)	1.03 (.96)	1.07 (.91)
Low	Service 5	1.14 (.95)	.35 (2.50)	1.05 (.98)	1.14 (.96)
	Rule 50	1.10 (.92)	.52 (3.50)	1.04 (.97)	1.10 (.93)
	Rule 45	1.13 (.94)	.40 (3.00)	1.05 (.98)	1.12 (.95)
	Service 1	1.20 (1.00)	.14 (1.00)	1.07 (1.00)	1.18 (1.00)
	45 and 10	1.00 (.65)	1.00 (7.00)	1.00 (.86)	1.00 (.67)
	Service 10	1.09 (.71)	.85 (6.00)	1.03 (.87)	1.09 (.73)
	40 and 5	1.20 (.78)	.57 (4.00)	1.06 (.92)	1.20 (.80)
Medium	Service 5	1.32 (.86)	.44 (3.00)	1.10 (.95)	1.31 (.87)
	Rule 50	1.29 (.84)	.45 (3.25)	1.09 (.94)	1.27 (.85)
	Rule 45	1.36 (.88)	.35 (2.50)	1.11 (.96)	1.33 (.89)
	Service 1	1.54 (1.00)	.14 (1.00)	1.16 (1.00)	1.49 (1.00)
	45 and 10	1.00 (.46)	1.00 (6.71)	1.00 (.81)	1.00 (.49)
	Service 10	1.10 (.51)	.92 (6.14)	1.02 (.82)	1.10 (.54)
	40 and 5	1.40 (.64)	.57 (3.86)	1.09 (.88)	1.39 (.68)
High	Service 5	1.55 (.71)	.49 (3.29)	1.12 (.91)	1.53 (.75)
	Rule 50	1.65 (.76)	.37 (2.43)	1.14 (.92)	1.59 (.78)
	Rule 45	1.81 (.83)	.29 (2.00)	1.17 (.94)	1.73 (.85)
	Service 1	2.18 (1.00)	.15 (1.00)	1.24 (1.00)	2.03 (1.00)

NOTES

(1) Most pension plans in Ontario are defined benefit plans using a variety of benefit formulas. CA and 5Y plans being considered in this paper are common in practice and represent benchmark extremes; final earnings plans are restricted by law to the average wages of the last three or more years. Money purchase plans constitute about 6 per cent of plan members and 40 per cent of plans in Ontario. The benefit and contribution levels used are arbitrarily selected, but the results can readily be adjusted to other levels. (For example, costs and benefits in defined benefit plans with 2 per cent benefit level would be twice as high.)

(2) Two additional rate schedules, representing the actual experience of the Ontario Public Service Superannuation fund in the period 1974-76, were also used throughout most of the study. Results obtained under these schedules were included in the reports submitted to the Royal Commission but will not be discussed in this paper. All termination rate schedules were constructed by Laurence Coward and Towers, Perrin, Forster and Crosby of Toronto.

(3) The loading was removed from the GAM Table and a projection for mortality improvement was incorporated by Towers, Perrin, Forster and Crosby of Toronto.

(4) Computations were also carried out using somewhat higher rates of mortality taken from Male Life Table, Canada, 1970-1972. These rates are also given in the Appendix and the annuity cost differences implied by the two different tables will be noted later in this section.

(5) These projections were made and provided to us by the Royal Commission on the Status of Pensions in Ontario.

(6) O. Marcotte, and Y. Balcer, "Lifetime Wages and Earnings Patterns in Canada," (mimeographed report, 1977); P. Diamond, R. Anderson, and Y. Balcer, "A Model of Lifetime Earnings Patterns," Consultant Panel on Social Security to the Congressional Research Service, Report (Washington, D.C.: Government Printing Office, 1976.

(7) Similar wage functions relevant to last five years' average plans can also be constructed but are not shown in Figure 3. It should be noted, however, that since benefits related to a creditable year of service depend on the wage at termination in final earnings plans, there will be a wide disparity relative to career-average plans.

(8) As noted before, rates of return are based on the long-term government bond index. It was subsequently decided to recompute some of the results using somewhat higher rates of return to account for the private sector and as an additional dimension in sensitivity analysis.

(9) Standard deviations can easily be computed by multiplying the entries of Table 5 with the corresponding entries of Table 4.

(10) See H.E. Winklevoss, Pension Mathematics, with Numerical Illustrations (Pension Research Council, Irwin, Illinois, 1977).

(11) Recall that the defined benefit plans are based on a 1 per cent benefit level and that the level of contribution in the MP plan is 6 per cent. If these levels are increased, cost differences in question would also increase proportionately. Recall also that neither absolute nor incremental costs under MP plans are directly comparable with those under defined benefit plans.

(12) See B.S. Barnow and R.G. Ehrenberg, "The Cost of Defined Benefit Pension Plans and Firm Adjustments,"Quarterly Journal of Economics (forthcoming), for a comprehensive analysis and discussion of this issue as it relates to cost-neutrality to firms in hiring workers of different ages.

(13) In CA plans, costing would be relatively easy if the firm used the "plan termination cost method," but harder under other actuarial cost methods. See B.S. Barnow and R.G. Ehrenberg, "The Cost of Defined Benefit Pension Plans and Firm Adjustments," Quarterly Journal of Economics (forthcoming), for a comprehensive analysis and discussion of this issue as it relates to cost-neutrality to firms in hiring workers of different ages.

(14) Unfortunately, such influences are not well reflected in the results because of the assumed independence in the foregoing policy simulations of termination rates, wages, and plan characteristics. This assumption avoids the estimation problems related to the extent to which varying plan parameters would affect labour turnover (the individual response) or cause compensating variations in wages (the market response). Such considerations do not limit the usefulness of the results, however, so long as they are interpreted with due regard to elements that are not incorporated in the models.

(15) Ratios in Tables 12, 13, and 14 are for age group 25-65 under the most probable economic scenario. Ratios for different age groups and economic assumptions are similar.

Appendix A - Methodology

Pension plans may be divided into two broad categories: defined benefit plans and defined contribution plans. A defined benefit plan may in turn be a unit benefit plan under which pension benefits are determined with reference to the remuneration of an employee for each year or for a selected number of years of service, or a flat benefit plan under which pension benefits are expressed either as a fixed amount in respect of each year of employment or a fixed periodic amount. The most common version of a defined contribution plan is the money purchase plan under which pension benefits are determined upon the retirement of an employee by the accumulated amount of past contributions. Defined benefit plans may be contributory (i.e., both employees and the employer contribute) or non-contributory (i.e., only the employer contributes); most money purchase plans are contributory.

In almost all defined benefit plans and in some defined contribution plans, a terminating employee is entitled to pension benefits at retirement if he or she is of a prescribed minimum age at the time of termination (the age requirement); and/or he or she has completed a prescribed minimum number of years of service with the organization (the service requirement). These requirements are called vesting rules (standards or provisions); if they are met, the pension is vested in the employee, contributions are "locked-in," and the employee collects benefits from it upon retirement even if he or she never again works for the organization involved. If termination occurs before vesting, the employee is entitled only to a return of his or her contributions with some interest.

An important proxy measure for pension benefits at retirement is the length of qualifying service (i.e., a length of service that qualifies or is "creditable" under the vesting rules in effect). Given the structural features of a specific pension plan and the rates of termination applicable to plan members, qualifying service in the plan can be characterized without much difficulty. Such an exercise would not be very useful, however, as a basis for the discussion of various policy issues related to lifetime pension benefits. The relevant measure is the cumulative qualifying service accruing from a career membership in pension plans. Important determinants of this measure, in turn, would be the length of the working life, periods of employment, termination rates, vesting rules, pension plan coverage, and portability (or transferability).

Since the employment termination process is a random process, qualifying service in a given plan as well as career qualifying service can be fully characterized only through probabilistic models. To illustrate the general structure of the basic model used in the following applications, let $h^n(i)$ denote the length of qualifying service under a given vesting rule for an employee who terminates an employment of length i at

working age n. For example, under the rule of full vesting after ten years of service, we have

$$h^n(i) = i \text{ if } i \text{ is greater than or equal to } 10$$
$$0 \text{ if } i \text{ is less than } 10$$

and, under the rule 45 and 10, we have

$$h^n(i) = i \text{ if } i \text{ is greater than or equal to } 10 \text{ and } n \text{ is greater than or equal to } 45-a$$
$$0 \text{ otherwise}$$

where a is the age at entry. Next, let $p^n(i)$ be the probability that an employment of duration i years at working age n will continue for at least one additional year. Note that $p^n(i)$ are complements of select termination rates. If we now denote by $W^n(i,j)$, the probability that the current employment at working age n is of i years length and that j years have been vesting in previous employments, we can write:

$$W^n(i,j) = W^{n-1}(i-1,j)\, p^{n-1}(i-1),\ i= 2,3,\ldots,n,\ j=0,1,\ldots,n$$

$$W^n(1,j) = \sum_{i=1}^{n-1} W^{n-1}(i,j-h^{n-1}(i)[1-p^{n-1}(i)],\ j=0,\ldots n$$

These relations determined the probabilities $W^n(i,j)$ recursively which in turn can be used to compute the distribution $Q^N(j)$ of career qualifying service at working (or retirement) age N by:

$$Q^N(j) = \sum_{i=1}^{N} W^N(i,j-h^N(i),\ j=1,1\ldots,N.$$

Under the abstraction that the pension is wage indexed (i.e., accrued at the same rate as the rate of growth of the average wage) qualifying service at retirement can be regarded as pension benefits expressed as a fraction of the wage at retirement. This assumption does not hold in practice, however, and the above model should be converted to that of pension benefits. This conversion is trivial in flat benefit plans. It can also be carried out for unit benefit and money purchase plans by appropriately modifying the function $h^n(i)$ so as to transform the lengths of qualifying service to pension benefits, taking into account benefit formulas, benefit levels, wage profiles, and wage growth rates.

In unit benefit plans, for example, pension benefits accruing from an employment of length i years that terminates at working age n can be expressed as:

$$h^n_{w,k}(i) = k.h^n(i).f(w_{n-i+1}, w_{n-i+2}, \ldots, w_n)$$

where k is the benefit level (usually 1 per cent to 2 per cent), w_j is the wage at working age j, and f is a function that established the way in which career wages are taken into account. In career-average-earnings plans $f(w_{n-i+1},w_{n-i+2},\ldots,w_n) = (w_{n-i+1}+w_{n-i+2}+\ldots+w_n)/i$ and in final-wage plans $f(w_{n-i+1}w_{n-i+2},\ldots,w_n) = w_n$, with several other possibilities and practices in between these extremes. The wages involved may be taken as unindexed relative wages computed from $w_n=(1+g)^{n-N}$, such that $w_N=1$, where g is the growth rate of the average wage and N is the age of retirement. Or, these can be computed from $w_n=(1+g)^{n-N}(1+r)^{N-n}$, as the value at time N of the relative wage paid at time n if it were indexed by the inflation rate r from time n to time N. Wage profiles reflecting wage differences in different ages can also be incorporated.

If we replace the function $h^n(i)$ in the expressions presented above in relation to qualifying service by $h^n_{w,k}(i)$, we arrive at a framework for modelling pension benefits at retirement as a percentage of the wage in the year preceding retirement. This framework represents the theoretical basis for the benefit and cost models to be used in the applications reported here. Certain aspects of the methodology are covered in more detail in Y. Balcer and I. Sahin, "Probabilistic Models for Pension Benefits," Journal of Risk and Insurance, 46(1979), pp. 99-123.

Appendix B

Probabilities of Remaining in the Same Employment for an Additional Year as of Function of Attained Age and Tenure for High, Medium, and Low Mobility Sectors

Attained age	Mobility	Duration of employment										
		0	1	2	3	4	7	12	17	22	27	32
	High	.412	.604	.700	.757	.796	.862					
22	Medium	.618	.736	.800	.838	.864	.908					
	Low	.809	.868	.900	.919	.932	.954					
	High	.440	.624	.715	.769	.806	.866	.910				
27	Medium	.627	.749	.810	.846	.871	.911	.940				
	Low	.814	.874	.905	.923	.936	.956	.970				
	High	.468	.642	.728	.781	.816	.872	.914	.934			
32	Medium	.645	.761	.819	.854	.877	.915	.943	.956			
	Low	.822	.880	.910	.927	.938	.958	.972	.978			
	High	.493	.658	.742	.792	.824	.880	.918	.937	.948		
37	Medium	.662	.772	.828	.861	.883	.920	.946	.958	.965		
	Low	.831	.886	.914	.930	.942	.960	.973	.979	.982		
	High	.518	.676	.754	.802	.834	.884	.922	.940	.950	.956	
42	Medium	.679	.784	.836	.868	.889	.923	.948	.960	.967	.971	
	Low	.840	.892	.918	.934	.944	.962	.974	.980	.983	.986	
	High	.541	.691	.766	.811	.841	.890	.925	.943	.952	.958	.964
47	Medium	.694	.794	.844	.874	.894	.927	.950	.962	.968	.972	.976
	Low	.847	.897	.922	.937	.947	.964	.975	.981	.984	.986	.988
	High	.564	.706	.778	.820	.848	.896	.929	.946	.954	.960	.967
52	Medium	.709	.804	.852	.880	.899	.931	.953	.964	.970	.974	.978
	Low	.854	.902	.926	.940	.950	.966	.976	.982	.985	.987	.989
	High	.584	.721	.788	.829	.856	.901	.932	.949	.956	.962	.968
57	Medium	.723	.814	.859	.886	.904	.934	.955	.966	.971	.975	.979
	Low	.862	.907	.930	.943	.952	.967	.978	.983	.986	.988	.990

Appendix C
Mortality Rates

	Mortality rate			Mortality rate			Mortality rate	
Age	GAM	Male Life table	Age	GAM	Male life table	Age	GAM	Male life table
20	.000524	.0017810	47	.003907	.0056127	74	.051474	.0606918
21	.000543	.0018411	48	.004400	.0062159	75	.055566	.0655171
22	.000566	.0018657	49	.004933	.0068820	76	.060364	.0707965
23	.000589	.0018340	50	.005501	.0076117	77	.066249	.0766410
24	.000615	.0017500	51	.006106	.0084061	78	.072953	.0829766
25	.000644	.0016447	52	.006744	.0092659	79	.080085	.0897294
26	.000676	.0015492	53	.007418	.0101672	80	.087862	.0970103
27	.000712	.0014944	54	.008124	.0111092	81	.095916	.1049301
28	.000751	.0014816	55	.008866	.0121282	82	.104202	.1125998
29	.000794	.0014901	56	.009577	.0132603	83	.112857	.1229454
30	.000842	.0015181	57	.010313	.0145417	84	.121713	.1328930
31	.000895	.0015636	58	.011113	.0159649	85	.130743	.1435535
32	.000953	.0016246	59	.012091	.0175060	86	.140002	.1550377
33	.001018	.0016949	60	.013216	.0191759	87	.149447	.1674566
34	.001089	.0017758	61	.014452	.0209856	88	.159267	.1807363
35	.001168	.0018766	62	.015773	.0229460	89	.169541	.1948027
36	.001253	.0020070	63	.017202	.0250341	90	.180337	.2097668
37	.001348	.0021764	64	.018935	.0272425	91	.191428	.2257396
38	.001454	.0223866	65	.020982	.0296059	92	.202675	.2428318
39	.001571	.0026315	66	.023475	.0321591	93	.215006	.2609695
40	.001700	.0029081	67	.026287	.0349367	94	.229719	.2800788
41	.001862	.0032136	68	.029332	.0378967	95	.245661	.3002707
42	.002082	.0035452	69	.032595	.0410161	96	.262162	.3216559
43	.002352	.0038886	70	.036284	.0443578	97	.280078	.3443454
44	.002674	.0042458	71	.040205	.0479848	98	.299603	.3682653
45	.003041	.0046380	72	.044043	.0519601	99	.320625	.3933416
46	.003453	.0050865	73	.047723	.0562097	100	.343642	.4196852

Trends in Retirement Age and the Implications for Pension Planning: An Economic Analysis

James E. Pesando

August, 1979

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INTRODUCTION

The question of whether mandatory retirement based exclusively on age ought to be banned receives a great deal of current attention. The most striking characteristic of the labour force behaviour of older workers in recent years, however, has been a continuing trend toward earlier retirement. Data on retirement decisions per se are not available, but existing figures on labour force participation rates provide a close approximation. These data, summarized in Table 1, confirm the steady trend toward earlier retirement for males in the 55-64, 65-69, and over-70 age categories. For females, for whom there has been a dramatic increase in participation rates as a whole for the past twenty years, the trend toward early retirement is still evident in the 65-69 and over-70 age categories.

The purpose of this report is to highlight the major economic implications of the trend toward early retirement, particularly as they pertain to pension planning. The report is organized around five major topics:

1. analysis of the trend toward earlier retirement;
2. the labour market implications of this trend;
3. the macroeconomic consequences of early retirement;
4. the impact of the trend toward early retirement on the design of public pension plans; and
5. the impact of this trend on the design of employment pension plans.

The Trend Toward Earlier Retirement

Analysis of this trend, in both Canada and the United States, has focused on the relative importance of two factors: first, the health of the employee as he approaches what may be termed the "normal" retirement age of 65; and second, the resources that he has available to finance his retirement. The latter consists of income from public pension programs, employer-sponsored and other private pension plans, and the accumulated value of other prior savings. The argument that health of the employee is a crucial factor is weakened prima facie by the fact that the trend toward earlier retirement has occurred during a period in which life expectancies have increased and the delivery of health services has improved. Further, much of the evidence which supports this view is drawn from survey responses, in which individuals are more likely to give socially acceptable reasons for early retirement such as poor health. Formal statistical studies of the labour force participation behaviour of older workers in the United States assign a far greater role than to survey techniques, to the availability of public pensions and other resources necessary to finance retirement.

Table 1
Labour Force Participation Rates, Older Males and Females, 1961-1977(a)

	Participation rate					
	Males			Females		
	55-64	65-69	70+	55-64	65-69	70+
	(Per cent)					
1961	85.9	50.4	22.0	24.6	10.8	3.8
1962	85.3	49.2	20.4	25.2	11.2	3.4
1963	85.1	45.0	19.3	26.1	12.1	3.4
1964	85.3	47.1	18.4	27.2	12.6	3.8
1965	85.6	46.0	18.1	28.6	12.4	3.4
1966	85.3	46.7	17.5	30.2	11.8	3.5
1967	85.0	45.7	15.1	30.3	12.2	3.4
1968	84.7	44.1	15.2	30.8	12.4	3.4
1969	84.6	41.3	15.5	32.1	11.7	2.9
1970	83.6	37.5	16.3	31.6	10.3	2.9
1971	82.5	32.8	14.6	32.8	10.6	2.9
1972	81.6	31.1	13.1	31.5	9.1	2.5
1973	80.6	30.6	12.3	32.9	9.3	2.4
1974	79.5	30.0	11.9	31.5	8.8	2.4
1975	79.3	29.9	10.9	30.7	9.5	2.3
1976	76.8	25.4	9.7	32.0	7.9	2.1
1977	76.6	25.1	9.2	32.2	8.4	2.0

a Annual data are averages of monthly rates from Statistics Canada, The Labour Force, with rates prior to 1976 converted to the "new" definition, as compiled by Burbidge and Robb (1978).

The trend toward earlier retirement is readily explained in the traditional work-leisure, life-cycle framework employed by economists to analyze labour supply decisions. In this framework, leisure is recognized to be a normal good whose consumption will increase as the wealth of the household increases. Rising per capita incomes over time, together with the expansion of institutionalized retirement incomes in the form of public programs such as OAS and CPP/QPP, have enabled many Canadians to consume more leisure in the form of earlier retirement. Of particular importance in this regard has been the facilitating role of public policy. Over the period 1966 to 1970, eligibility for OAS and GIS was gradually reduced from age 70 to 65, presumably in response to public pressure. The introduction of the CPP/QPP, together with the expansion of OAS and GIS benefits, created intergenerational transfers in which the wealth of present workers increased at the expense of future taxpayers. These intergenerational wealth transfers, which have undoubtedly facilitated the earlier retirement of many, are a by-product of the pay-as-you-go nature of these public programs. Tax or contribu-

tion rates for OAS/GIS and CPP/QPP will undoubtedly have to increase in the years ahead, thus highlighting the fact that early participants in these plans receive net benefits far in excess of their contributions. Similar arguments hold for freely available or subsidized services to the elderly, particularly health care, which are financed out of general tax revenues and thus on a pay-go basis. In short, the trend toward earlier retirement - as more individuals use their rising real incomes to consume greater leisure time in the form of earlier retirement - has undoubtedly been accelerated by public policies which have transferred additional wealth to current retirees and elderly workers from future taxpayers.

The logic of searching for the causes of the trend toward earlier retirement is to help predict whether or not this trend will continue. To the extent that the current trend is in part a manifestation of public policy, there also remains the possibility of using policy levers to slow or even reverse it if so desired. Although the issue is open to some debate, the consensus view appears to be that - in the absence of major changes in the age of entitlement to public programs and subsidies targeted to the aged - the trend will continue, at least for a while. Denton and Spencer (1978), in a background study prepared for the Economic Council of Canada, make what appears to be a representative set of projections. For males aged 55-64, they project a drop from the 1977 participation rates of 76.6 per cent to 74.5 and 70.0 per cent respectively, in 1981 and 1991. For males aged 65-69, the corresponding figures are from 25.1 to 21.9 and 15.0 per cent respectively. For females aged 55-64, Denton and Spencer project a modest increase from 32.2 per cent in 1977 to 34.0 per cent by 1991. For females aged 65-69, they project a decline during this period from 8.4 to 5.0 per cent. As a working approximation, Denton and Spencer assume that these participation rates stabilize after 1991.

Given first, the projected rise in per capita incomes in the years ahead and second, the maturing of both the CPP/QPP and many employer-sponsored pension plans, the continuance of the trend toward earlier retirement is likely. Working in the opposite direction, although not likely to reverse the trend, is the fact that the intergenerational wealth transfers associated with the public programs will decrease sharply over time, especially for middle- and upper-income Canadians. In another background study for the Economic Council of Canada, Rea (1978) assesses the net benefits (the present value of future benefits less the present value of future contributions and the accumulated value of prior contributions) of OAS/GIS and CPP/QPP by income class and age cohort. Assuming first that contribution rates to the CPP/QPP are not raised until the fund is exhausted in 2007, and are set at pay-as-you-go rates thereafter, and second, that OAS/GIS benefits are financed from personal income taxes, Rea contrasts the net benefits to today's older workers (the 1925-29 cohort) with those to new entrants to the labour force (the 1960-64 cohorts). For the older workers, averaged over all income classes, net benefits (in thousands of 1977 dollars) per worker

equalled $9,300 from CPP/QPP and $3,700 from OAS/GIS for a total of $13,000. For the new entrants, however, net benefits per worker equalled $7,450 from CPP/QPP and minus $4,760 from OAS/GIS, for a net total of only $2,690. The net benefits to the older cohort of OAS/GIS are higher if these benefits in fact turn out to be more closely indexed to wages than to prices (i.e., via subsequent liberalization of benefits), and the net costs to the younger cohorts are higher as well. While these figures are contingent upon a specific set of underlying assumptions, they suffice to make the basic point. The net intergenerational wealth transfer that has facilitated the trend toward earlier retirement of current workers will fall sharply for younger cohorts, thus removing one force that facilitated the decision by many to opt out of the labour force at progessively younger ages.

On balance, the projected continuance of the trend toward earlier retirement - at least for another decade - appears likely. Given the existence of significant numbers of workers (as evidenced by selective contract negotiations in the mining, automobile, and other industries) who would opt for early retirement if their financial circumstances permitted, rising real incomes - and the probable willingness of some workers to devote a larger fraction of their total compensation to deferred wages (pensions) - should facilitate this development. As noted elsewhere by the present author (Pesando 1979), there does not appear to be a very high probability that the net trend toward lower participation rates by older workers will be reversed if mandatory retirement based exclusively on age is banned. Since leisure appears to be a normal good whose consumption increases with household wealth, there remains the possibility that the increased demand for leisure may take the form of longer vacations, reduced length of the work week or the like rather than earlier retirement per se. Although this may well turn out to be true, in which case the trend toward earlier retirement might be slowed or even reversed, such speculation and subsequent analysis are beyond the scope of the present report.

Labour Market Implications

As noted, the fundamental implication of the trend toward earlier retirement is the attendant reduction in the labour force participation rates of older workers, which cet. par. reduces the supply of labour for the economy as a whole. From the long-run perspective of models of economic growth, in which full employment of the labour force is presumed, the unambiguous implication is that the trend toward earlier retirement will reduce both the level and rate of growth of real output or GNP. This concern is treated at greater length in the analysis of the macroeconomic implications of the trend toward earlier retirement.

From the short-run perspective of an economy characterized by "high" unemployment, is there not some advantage cet. par. in the lower participation rates of older workers? This question invites the following observations: At present, the unemployment rate in Canada stands at

7.7 per cent, and is disproportionately high among younger workers. The significance of this figure is linked ultimately to the full employment target for the Canadian economy. Given the inevitable presence of structural unemployment (the job skills and geographic location of the unemployed do not match those that are required in available job openings) and frictional unemployment (there are always some workers who are between jobs either by choice or in response to the inevitable shifts in the composition of demand across industries), together with institutional constraints such as minimum wage laws which impede the operation of the market economy, the Canadian economy is simply not capable of achieving a very low rate of unemployment. Although there is no agreement on this issue, a majority view among economists is that an appropriate full-employment target for Canada is an aggregate unemployment rate of 5.5 to 6.0 per cent. This rate is higher than that envisioned a decade ago, in large part due to the liberalization of unemployment insurance benefits together with the very rapid increase in the labour force associated with the higher participation rates of women and the maturing of the baby boom generation. The point, of course, is that the target for the aggregate unemployment rate must be specified before one can assess the magnitude of any potential reduction in the current unemployment rate. The fact that the number is probably less than 2 per cent, rather than the larger figures that are sometimes cited, places an important perspective on the present issue.

Thus, even if the jobs characteristically held by older workers could be easily and rapidly filled by younger workers, the scope for relief from high youth unemployment is not necessarily large. Of equal importance, the labour force characteristics of workers aged 65 and over differ sufficiently from those of the labour force as a whole to suggest that their retirement would not translate into a comparable number of job openings for younger workers. Almost 30 per cent of workers aged 65 and over are either self-employed or employers, compared to only 8.2 per cent for the labour force as a whole. Over 25 per cent of male workers aged 65 and over are involved in farming, horticultural, and animal husbandry, compared to only 6 per cent for male workers as a whole. The incidence of part-time work is also much higher among workers aged 65 or older. In 1977, for example, 23 per cent of males aged 65 or over were employed on a part-time basis, compared to only 3 per cent of those aged 55-64. The higher incidence of part-time work again lowers the likelihood that the trend toward earlier retirement - especially among those who would otherwise work beyond the normal retirement age of 65 - will create a significant number of job opportunities for younger workers. Finally, given the widespread recognition that the labour force growth in Canada will begin to slow sharply in the mid-1980s, there is little reason from the employment side to take solace from the probable continuance of the trend toward earlier retirement.

To the extent that this trend continues, and given the preferential treatment in most defined benefit plans to long-standing employees, there might cet. par. be a reduction in the mobility of labour, especi-

ally among those who would contemplate earlier retirement. From this perspective, there may develop greater public pressure to increase the portability of pension benefits, liberalize vesting requirements, and extend protection against cost-of-living increases in employment pension plans. As Pesando and Rea (1977) emphasize, however, the observer must not forget that delayed vesting and other impediments to labour mobility implicit in many such plans are effectively designed to help employers retain skilled employees and to reduce costly turnover. Their elimination, in turn, is likely to lead firms to use alternative devices (wage scales more steeped with respect to years of service, longer vacations tied to years of service, and so on) to reduce cet. par. what would otherwise be an increase in labour mobility.

Finally, to the extent that a reversal of the trend toward earlier retirement is felt to be desirable from the viewpoint of public policy, there obviously exist a number of manpower policies that the government could promote. The most obvious would be policies, including potential subsidies, to encourage workers to provide more flexibility (for example, in terms of hours) and thus promote a more gradual transition from full-time work to retirement.

The Macroeconomic Impact

As noted, economists prefer to analyze the retirement decisions in terms of the work-leisure, consumption-savings decisions implicit in life-cycle models of household behaviour. To the extent that rising per capita incomes lead households to consume more leisure in the form of earlier retirement, this result and its macroeconomic consequences can be labelled as neither good nor bad from the viewpoint of valuing the right of individuals to make their own decisions, given the rules of the game. To the extent that intergenerational wealth transfers formalized in public programs to provide income security to the aged have facilitated this trend, however, there may remain some concern that such public policies might need to be rethought. If the original decision had been to fully fund the CPP/QPP, for example, the implication is cet. par. that the trend toward earlier retirement would have slowed. At the same time, the political pressure to implement programs which entail such intergenerational transfers is quite predictable, an issue which arises later in the discussion of the design of public programs.

In general, the reduction in the effective supply of labour associated with earlier retirement will cet. par. reduce both the level and rate of growth of real output (GNP). This reduction, for given tax rates, will imply lower tax revenues than would otherwise be the case. If households decide to work less and to consume more leisure in the form of earlier retirement, and if they plan to reduce their consumption in their pre-retirement as well as in their post-retirement period, then they must save more during their work lives to finance the selected standard of living in their longer retirement period. If so, the trend toward earlier retirement should be accompanied by an increase in the

personal savings rate, at least until participation rates settle at their new long-term levels. Any increase in saving *cet. par.* is likely to lead to an outflow of capital from Canada, thus placing downward pressure on the foreign exchange value of the Canadian dollar. (The resulting increase in the trade balance, as exports rise and imports fall, is the counterpart to the rise in the savings rate. Note that an increase in the trade balance offsets the decline in consumption, so that total demand for goods and services produced in Canada - and hence employment - does not decline.) The important point is that since Canada is a small, open economy which is closely tied to the United States in particular, any increase in personal saving is not likely to significantly reduce interest rates and thus serve as a stimulus to real capital expenditures in Canada. To the extent that interest rates begin to fall, certain transactors who are sensitive to interest differentials would withdraw their funds from the Canadian capital market in search of higher yields in the United States and elsewhere. In so doing, their behaviour will tend to reverse any decline in Canadian interest rates. As a result, there is not likely to be a major stimulus to real investment spending by Canadian firms in response to any increased personal saving, and thus no offset to the reduction in the rate of growth of the Canadian economy associated with the trend to earlier retirement. At the same time, it is worthwhile to note that the counterpart to this result is that pension fund managers need not worry that such an increase in personal saving would significantly reduce the returns available on their traditional investment outlets.

To the extent that workers opt for reduced consumption in favour of greater saving or finance their extended retirement years, is there likely to be downward pressure on the rate of inflation in Canada? This speculation, perhaps unfortunately, has little merit. Economists agree that the long-term rate of inflation is determined by the rate of growth of the money supply, less the rate of growth of real output. If the Bank of Canada pursued the same monetary policy (i.e., permitted the same long-term rate of growth of the money supply), the rate of inflation - ignoring the second-order effects on the rate of growth of real output arising from lower participation rates of older workers - would be the same. Hence one cannot associate a potential increase in the personal savings rate, a logical consequence of the decision by more households to opt for a longer retirement period, with downward pressure on the rate of inflation in Canada in the years ahead.

To sum up, the major macroeconomic consequence of the continuing trend toward earlier retirement is a decline in both the level and the rate of growth of *potential* output. This decline, in turn, implies a reduction in the tax base, and is likely to be accompanied by an increase in the personal savings rate until participation rates settle at their new long-term levels. (Such an increase in savings rates would not occur only if (a) households intended to finance longer retirement periods with reduced amounts of accumulated savings, which would imply a lower planned standard of living during retirement and/or (b) households

did not reduce their level of consumption during their work years on the assumption that increased - perhaps income-tested - wealth transfers from public programs during their retirement years would enable them to maintain a satisfactory standard of living.) Note also that any increase in the desire to save in order to finance a longer retirement period may increase the demand for institutionalized savings, perhaps in the form of employment pension plans.

The final and important issue relates to the quantitative importance of the effects identified above. The following calculation provides some perspective on this question. In 1961, the participation rate of men aged 55-64 was 85.9 per cent, and this rate fell in the ensuing fifteen years to 76.8 per cent in 1976. If the participation rate for this group had not declined, the participation rate would have been 9.1 percentage points higher in 1976. Since there were 928,000 men aged 55-64 in the labour force in 1976, these figures translate into a potential increase in the labour force of 84,400. Since the total labour force in 1976 was 10.23 million, this amounts to a potential increase in the labour force of .82 per cent. Since labour's share of national income is about 70 per cent, the .82 per cent increase in the labour force corresponds to a .57 per cent increase in potential output. If this same calculation were applied to men aged 65-69 and 70 and over, the figure would of course be higher.

To push this example further would require assumptions about the productivity of older workers versus the national average, the relative incidence of part-time to full-time work in the older age groups versus the labour force as a whole, and more age-specific participation rates than are compiled by Statistics Canada. A crude approximation, based on the spirit of the above calculations, is that potential output - and hence the standard of living - in Canada would have been one per cent higher in 1976 if there had been no trend toward earlier retirement since 1961. To the extent that this trend continues, the fall in potential output will clearly increase in the years ahead. The decline in potential output, and hence in the aggregate standard of living, is the inescapable by-product of the decision by housholds to work less and thus enjoy more leisure.

Impact on the Design of Public Programs

There is little doubt that the intergenerational wealth transfers implicit in the pay-go nature of CPP/QPP and OAS have facilitated the decision by many Canadian workers to opt for earlier retirement. At the same time, the income-tested nature of GIS and the various provincial supplements serves as a tax on the earnings of low-income households and thus cet. par. provides incentives to earlier retirement for those who might otherwise work beyond the entitlement age of 65. (In British Columbia, the provincial supplement, GAINS, provides benefits on an income-tested basis at age 60.)

There is also little doubt that current and prospective retirees will continue to press for the liberalization of OAS/GIS and CPP/QPP benefits, on the presumption that the main burden of these costs will pass to the next generation of workers. In short, prospective retirees will seek further inter-generational wealth transfers, in part to facilitate the desire of many to retire at an earlier age. The request that the age of entitlement to both OAS/GIS and CPP/QPP be reduced is easily foreseen. Suppose, for example, that the age of entitlement were reduced without restriction to age 60. There are two distinct avenues through which the effective cost or tax burden of this change would be felt. First, if household retirement decisions were unaffected, the costs - and hence the necessary change in tax rates - could be calculated in a straightforward fashion. In fact, however, additional workers would use their increased wealth to opt for greater leisure and earlier retirement. As a result, the effective labour supply would fall and both potential output and the tax base would contract accordingly. As a result of this second channel, the increase in tax rates or the tax burden implied by the reduction in the entitlement age would be magnified. The costs arising from the first channel are easy to establish. Those from the second are not, given the absence of precise estimates of how individual retirement decisions respond to such enabling wealth transfers. The crucial point is that careful studies by Pellechio (1979) and others with U.S. data have unambiguously established the fact that an increase in the present value of social security entitlements serves cet. par. to encourage workers to retire at an earlier age. Although the application of the U.S. experience to Canada merits qualification in view of the fact that social security benefits are income tested, there can be little doubt that the basic result is true in Canada as well.

In view of the obvious costs of a reduction in the age of entitlement under public programs which provide retirement incomes, some proponents of this view will undoubtedly suggest that this burden be reduced by income-testing OAS and perhaps CPP/QPP benefits. Such changes would, however, unambiguously serve to discourage work by those beyond the basic age of entitlement, a result borne out by repeated studies in the United States. Not only would the resulting incentives serve to encourage retirement at the now younger age of entitlement, but they are also likely to reduce the labour force participation of those who would otherwise work beyond the age of entitlement under the existing scheme. This reduction in work translates, in turn, into a lower tax base to which benefit payments are ultimately tied. Economists in the United States favour the abolition of the income test on social security benefits as a means of encouraging those aged 65 or above to remain in the labour force. A "package" in Canada which would attempt to reduce the cost of lowering the age of entitlement to public programs by introducing an earnings test for OAS or CPP/QPP would be very unattractive indeed. Note that an analogous result obtains if a retirement rather than an income test is placed on the benefits from these programs.

In view of the obvious cost effects of a move to unreduced benefits at an earlier age, effects whose importance is magnified by emerging demographic trends, there remains the question of whether actuarially reduced benefits from OAS and CPP/QPP should be made available to those who would opt for earlier retirement. In principle, the costs of these programs would remain unaffected if the actuarial reductions were appropriate. In fact, the existence of income-tested programs (GIS and the various provincial supplements) would guarantee that the total costs of public programs to provide income for the aged would increase. Actuarially adjusted (that is, lower) benefits from OAS and CPP/QPP would imply that a larger number of Canadians would qualify for income-tested benefits. The costs of these benefits, also financed on a pay-go basis, would again assume greater importance in view of the substantial increase in the pensioner ratio that will occur in the years ahead. There also exists the possibility of allowing Canadians to obtain actuarially increased OAS and CPP/QPP benefits if they choose to postpone the initial receipt of benefits. The attractiveness of this option would relate to the tax consequences of postponing these benefits and might appeal to those who choose to work beyond age 65 and would like to take advantage of the resulting income averaging. This option, if desired, would appear more reasonable than its counterpart, although it is not clear that there would be much demand for it. At the same time, it could serve to signal to employers and employees alike that a comparable adjustment might be appropriate for employer-sponsored defined benefit plans. To the extent that workers at present receive no such adjustment if they opt for delayed retirement, a disincentive to work beyond the normal retirement age in these plans might be eliminated. (See Pesando [1979] for a fuller discussion of this issue.)

Although much of the prior discussion has focused on the possible reduction in the age of entitlement under public programs, the fact that any enrichment in benefits without a commensurate increase in costs to active workers (and thus prospective retirees) will serve as a catalyst toward earlier retirement must be emphasized. At present, OAS/GIS and CPP/QPP benefits are all indexed to the price level, so that their real value will not be arbitrarily reduced by inflation. There exists the likelihood that many will press for the wage indexation of these benefits, so that retirees can "share" the benefits of rising labour productivity. To the extent that such liberalization takes place, either contractually or on the basis of ad hoc adjustments, the rise in benefits is again tantamount to a wealth transfer and, based on available evidence and analysis, will serve to encourage earlier retirement.

The question of whether to wage index the benefits of the public programs draws attention again to a final and crucial issue: what are the implications for tax burden of future workers of the present benefit and contribution-tax structure, and will this tax burden ultimately jeopardize the delivery of the benefits so promised? As is well known (see, for example, Pesando and Rea [1977]), the pensioner ratio will increase sharply after the turn of the century, raising the question of

whether future workers will accept the higher tax burden implicit in the pay-go funding of the public plans. Some have noted that there will be a decline in ratio of those under age 14 to the active work-force - thus providing some relief, since the dependency ratio will rise, if at all, by considerably less than the pensioner ratio. In fact, however, there is little relief in these figures, since per-person government expenditures are from 2 1/2 to 3 times greater for older dependents than for youths. Further, any potential cost saving implicit in the decline in the ratio of young dependents is likely to be difficult to realize, as those sectors with declining constituencies seek to prevent the transfer of resources away from them. Note, for example, the predictable attempt by educators to maintain their relative claim on public funds in spite of the current and continuing decline in enrolment.

The potential importance of the rising share of GNP to be devoted to supporting the elderly must be kept in perspective. Rea (1978) calculates that the ratio of public expenditures on income support for the aged will rise, on the assumption that OAS/GIS benefits increase with average incomes, from about 4 1/2 per cent of aggregate earnings (about 3 per cent of GNP) in 1980 to 8 1/2 per cent of aggregate earnings by 2030. Although this potential increase is significant, it is not of the disaster proportions that some observers have intimated. None the less, it draws attention to the increased tax rates for future generations implicit in the pay-go funding of these public programs, and suggests caution in any proposed initiative to liberalize their benefits.

Impact on the Design of Employment Pension Plans

If early retirement options in these plans are provided without an appropriate actuarial reduction in the value of benefits, then two issues immediately arise. First, contribution rates for the plan must increase to cover the actuarial increase in costs, which implies the more rapid accumulation of funds and cet. par. an increase in saving in the form of institutionalized pension arrangements. The consequences of an increase in savings have been discussed as part of the macroeconomic impact and do not bear repeating. Higher saving in this form, if not offset elsewhere by a reduction in discretionary saving, simply reflects the requirement that households save a larger fraction of their labour income in order to finance a longer retirement period. Second, since the costs of the plan will increase, there arises the question of cost incidence. Who will ultimately bear the cost of the higher contribution rates if more employees begin to opt for early retirement - either unilaterally or with mutual consent of the employer?

The crucial point to recognize is that if total costs of the plan increase due to the introduction of early retirement options and the contribution rates paid by employees do not increase, it does not follow that the incidence of the higher costs falls on the employer. To the extent that the effective increase in pension entitlements or deferred wages is offset by reductions in other components of the total compensa-

tion package relative to what otherwise would have occurred, the incidence of these higher costs falls on the employee. Formal evidence showing the ultimate incidence of the costs of such enrichments on the deferred component of the compensation package is difficult to pinpoint, either theoretically or empirically. A study of the incidence of social security taxes in the United States by Brittain (1972) suggested that the incidence of this payroll tax fell entirely on employees, which is to be expected if the supply of labour is unaffected by the tax. Other studies, including that of Ehrenberg (1977), provide strong support for the hypothesis that employees who receive more generous pension benefits cet. par. receive lower current wges. In short, there is both direct and indirect evidence that employees ultimately bear a large portion of any such increase in costs. One certainly cannot conclude that employer costs rise dollar for dollar with each increase in the value of pension benefits. From the perspective, any increase in the number of plan sponsors who provide early retirement options without actuarially reduced benefits must reflect - at least in part - the tacit agreement of workers to receive a larger fraction of their total compensation package in the form of deferred wages.

If early retirement options become more widespread, then a number of other issues should be noted. First, the cross-subsidies implicit in defined benefit plans are likely to be attenuated, as those who opt for early retirement cet. par. earn a higher implicit rate of return on their explicit or implicit pension contributions. Second, such a trend is likely to be accompanied by increased political pressure to lower the age of entitlement to public pension programs to enable workers to take advantage of the retirement options in their employer-sponsored plans. At present, for example, some employers provide "bridge" payments to employees who retire before the age of 65 and are thus not immediately eligible for OAS and CPP/QPP benefits. The need for such payments simply anticipates the potential pressure for a lowering of the entitlement age in public programs. (At the same time, it should be noted that a reduction in this age of entitlement would reduce the pressure on employers to offer unreduced benefits to those who opt for early retirement under their plans.) Third, the availability of unreduced benefits imposes an effective tax on the earnings of those employees who do not opt for early retirement. This incentive, of course, serves cet. par. to discourage work by those who have reached the age at which unreduced benefits become available. (In defined benefit plans, earlier retirement cet. par. is likely to imply a reduced pension since the number of years of pensionable service will be less. None the less, as can easily be shown, the present value at the actual time of retirement of these reduced benefits exceeds the present value at this same time of the higher benefits that would be payable if the employee worked until he reached the normal retirement age under the plan. This higher present value is, of course, the actuarial increase in costs associated with an employee opting for early retirement.) This observation invites the question of whether employers are initiating early retirement options - or are more willing to accept them - in those industries in which cet. par. the pro-

ductivity of older workers is more likely to have fallen or the productivity of older workers is more difficult to monitor.

An important and widely acknowledged deterrent to the exercise by employees of the early retirement option is uncertainty regarding the preservation of the real value of their pension entitlements during the current period of high inflation. I have discussed this issue at length in other reports, and would draw attention here to only a few salient remarks. First, if there exists a genuine desire on the part of many workers to opt for earlier retirement, then pressure to improve the effective indexing of employment pensions will increase. Second, if such improvements are made or the rate of inflation begins to subside, more employees may exercise the early retirement option and thus perhaps raise the cost of these provisions relative to what had been anticipated. Again, since workers who are at or near the age at which the early retirement option is available will not bear the full cost of these new provisions (although successive generations of workers may well do so), the effective wealth transfer - in a manner analogous to the intergenerational wealth transfers in public programs - may enable more workers to "consume" more leisure time in the form of earlier retirement.

Since employers may well succeed in passing most if not all of the higher costs of early retirement options back to workers in the form cet. par. of reductions in other parts of the total compensation package, the major concern stemming from this practice may arise from the attendant pressure to lower the age of entitlement to public programs. As for the practice of providing actuarially increased benefits for those who opt for postponed retirement, I have argued elsewhere (Pesando 1979) that this practice is to be encouraged if the goal is to encourage work by those who have reached normal retirement age under their employer's plans.

SUMMARY AND CONCLUSIONS

The trend toward earlier retirement in Canada, as evidenced by the steady decline in the participation rate of older (especially male) workers, is appropriately analyzed in the work-leisure, consumption-saving model of life-cycle behaviour that economists employ to study the labour supply decisions of households. Rising per capita incomes, reinforced by the intergenerational wealth transfers implicit in the pay-go financing of OAS/GIS, CPP/QPP and subsidized health and other services to the elderly, have enabled many Canadians to opt for more leisure in the form of earlier retirement. To the extent that there still exists a significant number of Canadians who would choose to retire earlier if their economic circumstances permitted, together with the rise in per capita incomes and the maturing of both the CPP/QPP and many private pension plans which will occur in the years ahead, this trend is likely to continue.

The loss in potential output of the Canadian economy implied by the trend toward earlier retirement can be identified neither as "good" nor "bad." The decline in potential output is the inevitable consequence of the decision by more households to work less and to enjoy more leisure. To the extent that the decision by Canadian workers to retire earlier has been facilitated by wealth transfers implicit in public programs to provide income security to the aged, this dimension of these programs could merit rethinking if public objectives in this area were to change. In general, any enrichment of OAS/GIS or CPP/QPP benefits without a commensurate increase in costs to older workers will increase their wealth and cet. par. serve to encourage earlier retirement. No such cost increases however, are likely to be politically feasible, since public pressure for such enrichment inevitably presumes that much of the cost burden will be borne by succeeding generations of workers. Significantly, the introduction of early retirement options without full actuarial adjustment in many defined benefit plans implies an analogous cross-subsidy or intergenerational wealth transfer in certain employment plans, and the impact of these enabling wealth transfers is also likely to facilitate the trend toward earlier retirement.

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Income Supplementation Programs for Pensioners in Ontario and Five Other Provinces

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Income Supplementation Programs for Pensioners in Ontario and Five Other Provinces

In the 1970s six provinces introduced programs of income supplementation to needy pensioners aged 65 and over. This paper discusses the various programs, with particular emphasis on the Ontario Guaranteed Annual Income System (GAINS).

ONTARIO GUARANTEED ANNUAL INCOME SYSTEM

Why GAINS?

The Ontario Guaranteed Annual Income Act was passed in June 1974, and the GAINS program went into operation the following month.(1) Its aim was to supplement the incomes needy Ontario pensioners receive from federal Old Age Security (OAS) and Guaranteed Income Supplement (GIS) payments. The government had recognized that many in the over-65 age group had no private pensions from their years in the work-force and, that their incomes after retirement were limited. In addition, the burden of inflation was falling disproportionately on persons dependent on fixed incomes whose real incomes were falling further and further behind those of wage and salary earners.

The government proposed to supplement the incomes of persons 65 and over to a level generally accepted as one that would provide enough money for them to live in dignity. The guaranteed level of income for the new program was determined from an examination of several low-income indicators such as those developed by Statistics Canada, the Senate Committee on Poverty, and Ian Adams.(2)

The level, somewhat above the income guaranteed in the federal OAS and GIS programs, is maintained by raising the GAINS guarantee every quarter when federal payments increase to offset rises in the cost of living. The guaranteed income level has risen, by discretionary increases and by the escalation of the federal benefits, from the original annual sum of $2,600 for single recipients and $5,200 for a couple to $4,120 and $8,000 respectively, January 1979. The maximum monthly payments from GAINS have also been raised from time to time to the current rates of $38.88 for a single person and $52.01 each for a couple.

Who Receives GAINS?

Payments under the program are made to needy persons age 65 and over who meet the residence requirements set out in subsection 1(h) of the Ontario Guaranteed Annual Income Act 1974, as amended:

"(h) 'eligible person' means a person who,

(i) has attained 65 years of age or such lesser age as may be prescribed,

(ii) is actually residing in Ontario and is entitled to receive a supplement that is paid to him or to his credit through the Ontario regional office of the Income Security Branch of the Department of National Health and Welfare of the Government of Canada,

(iii) has resided in Canada for the ten years immediately preceding the date on which his application is approved or, if he has not so resided in Canada, has either,

(A) been present in Canada, prior to those ten years and after attaining 18 years of age, for a continuous period of, or for periods the aggregate of which is, at least equal to three times the aggregate periods of absence from Canada during those ten years, and has resided in Canada for at least one year immediately preceding the date on which his application is approved, or

(B) resided in Canada, after attaining 18 years of age and prior to the date on which his application is approved, for a continuous period, or for periods the aggregate of which is at least forty years, and

(iv) has resided in Ontario for a period of one full year immediately prior to the date on which his application is approved or, after attaining 18 years of age and prior to the date on which his application is approved, has resided in Ontario for a continuous period, or for periods the aggregate of which is, at least twenty years."

The provisions in subsection (iii) correspond to the original residence requirements of the OAS program. Changes in the residence requirements for OAS were made, effective July 1977, to allow for the payment of partial pensions for residence as a fraction of the old forty-year maximum, with a minimum of ten years necessary to qualify. The "all or nothing" provisions of the old requirements are being altered, over a forty-year transition period, in order to recognize the greater contribution to society of longer-term residents and to allow for the international portability of benefits between countries that have agreed to recognize residence in both countries for pension purposes. The implications of these changes for the GAINS program - which guarantees an income level rather than a maximum monthly payment - would have been very expensive had not the legislation governing GAINS been amended, effective July 1, 1977 to correspond:

"1a

(1) Subject to this Act and the regulations, a monthly benefit may be paid for any month after the month of June, 1977 to every person who is not eligible on the 30th day of June, 1977 to be paid an increment and who,

(a) has attained 65 years of age or such lesser age as may be prescribed;

(b) is actually resident in Ontario and is entitled to receive a partial monthly pension authorized to be paid under subsection 1.1 of section 3 of the Old Age Security Act (Canada) and to receive a supplement that is paid to him or to his credit through the Ontario regional office of the Income Security Branch of the Department of National Health and Welfare of the Government of Canada;

(c) has resided in Canada, after attaining eighteen years of age and prior to the day on which his application is approved, for a period or periods the aggregate of which is not less than ten years and not more than forty years; and

(d) has resided in Ontario for a period of one full year immediately prior to the date on which his application is approved or, after attaining eighteen years of age and prior to the date on which his application is approved, has resided in Ontario for a continuous period of, or for periods the aggregate of which is, at least twenty years.

(2) A person who is not entitled to an increment under this Act on or before the 30th day of June, 1977 is eligible to be paid a monthly benefit under this section only when on or after the 1st day of July, 1977, he becomes entitled to receive a supplement and if on the day preceding the day on which his application is approved, he is a Canadian citizen residing in Ontario, or if not a Canadian citizen, is then legally resident in Canada and is residing in Ontario...and

(4) Notwithstanding subsections 1 to 3, where the result of an international agreement concluded in accordance with section 22.2 of the Old Age Security Act (Canada) is that a person resident in Ontario becomes entitled to receive a supplement, the Lieutenant Governor in Council may make regulations respecting the manner in which this Act shall apply to any such case or class of cases affected by the agreement, for adapting this Act thereto, and for determining such persons' or class of persons' entitlement to, and the amount of, a monthly benefit under this Act, as appears to the Lieutenant Governor in Council to be necessary and advisable."(3)

During the transition period both sets of residence requirements will apply until everyone comes under the new rules. Thus, once a person has qualified for OAS on the basis of residence, has lived in Ontario for the required periods outlined, and has qualified for GIS on the basis of income, GAINS payments are forthcoming. Persons meeting these criteria are not required to apply for GAINS; once a GIS application is approved for an eligible Ontario resident, the Department of National Health and Welfare notifies the Ontario Ministry of Revenue and payments are made automatically. Only if persons do not qualify for the federal OAS must they apply for GAINS payments. Eligiblity in such a case is also based on minimum age 65 and the following residence conditions:

> "Residency in Canada for five consecutive years immediately prior to qualification date with the last full year in Ontario, or
>
> Residency in Canada for periods totalling twenty years since reaching age eighteen, with the last full year prior to qualification date in Ontario, or
>
> Residency in Ontario since reaching age eighteen for periods that add up to twenty years."(3)

Should residence in Ontario terminate, payments under GAINS will be stopped; however, there is provision for payment to persons temporarily absent from the province, as outlined in subsections 2(2) and 2(3):

> "(2) No increment may be paid to any eligible person for...
>
> (c) any month throughout the whole of which the beneficiary is absent from Ontario, having absented himself from Ontario, either before or after becoming a beneficiary, and having remained out of Ontario before that month for six consecutive months, exclusive of the month in which he left Ontario;"
>
> and
>
> "(3) Where, after becoming a beneficiary, a person remains out of Ontario for six consecutive months exclusive of the month in which he left Ontario, payment of his increment in any subsequent month during which he is only temporarily resident in Ontario may, without a hearing, be suspended, but payment may be resumed with the month in which he returns to Ontario to be principally resident in Ontario."(4)

When and How Much?

Once eligibility has been established, cheques are mailed to recipients on an individual basis, on the fifteenth day of each month. Therefore, each partner in a couple receives one-half of the amount awarded to the couple.

The amount that can be paid by GAINS up to a maximum depends on the level of income of the individual or the couple. A statement of income is completed in the annual application for GIS and serves as the basis of income calculation for both programs; GIS payments of course are income for GAINS purposes(5) The meaning of income follows closely the definition in the Income Tax Act of Canada and includes the following items:

- payments from the Canada or Quebec Pension Plan
- Old Age Security pension and Guaranteed Income Supplement
- foreign pensions which are taxable in Canada
- income from retirement pensions
- annuity or superannuation payments
- earnings from employment
- net income from a profession or business
- alimony
- bank, bond, mortgage and other interest
- net dividends (actual dividends received, less applicable carrying charges) and net taxable capital gains
- Unemployment Insurance benefits
- net rents from property

Other forms of income that are not included for GIS are payments such as welfare, Workmen's Compensation, veterans' benefits, Family Allowances, and support from relatives or charitable organizations. Assets - for example, the balance in a bank account - are not considered income, but any interest earned on them would be.

Once the income from all sources has been totalled, the amount of GAINS to be paid is calculated as the difference between that income and the guaranteed income level. Since that level is based on individual income and single recipients get higher maximum GIS payments than individual married recipients, the maximum GAINS amount payable to each partner in a couple is more than the maximum payable to a single recipient. Indeed, GAINS policy is to compensate couples for the GIS differential whereby the married rate is less than twice the single rate.

Persons paid at the single rate include those who are single, widowed, divorced, or married with a spouse under age 60 or between 60 and 65 who is ineligible for the Spouse's Allowance. When both partners are over age 65 and receiving GIS, benefits are paid at the married rate.

An anomaly creeps in, however, with the federal Spouse's Allowance program, which provides benefits for a pensioner's spouse who is between the ages of 60 and 65 when the couple's income is judged to be insufficient. While the Spouse's Allowance is not considered income for purposes of computing GAINS for the spouse who is over 65, the low GIS payments to such a pensioner - calculated at half the married rate rather than the single rate - are not offset by GAINS income. The guaranteed income level of $3,842.88 for a married pensioner in this case is less

than that for a single person, though because of the Spouse's Allowance itself, the level of income of the couple is much higher than that indicated by the GAINS guarantee limit to the one recipient.

Until the end of 1978, except for the one anomaly, each individual GAINS recipient had the same total guaranteed income regardless of marital status. Beginning in January 1979, however, federal GIS benefits were increased by $20 per account to compensate for the single pensioner's higher costs. Each single recipient at the maximum level received an additional $20, and each member of a couple received $10. Even though single recipients would now have a higher guaranteed income than each partner of a couple, the Ontario government decided not to change the maximum GAINS payment. With guarantee levels of $4,120 and $8,000 respectively, single recipients can now receive 51.5 per cent of the total for a couple.

Recipients' GAINS payments are reduced $1 for every $1 of outside income received, thereby maintaining the guarantee level. For example, a $10 GAINS payment to a person who then acquires $5 in outside income would be reduced $5 to compensate. The $5 from outside plus the $5 from GAINS still ensures that the person has $10 to bring the total income up to the guarantee level. Payments are not adjusted during the year for the extra income acquired. Any differences in the year's income will appear in the application for GIS the following April, and GAINS will be adjusted if needed at that time. Consequently any outside income acquired during the payment year is cash in hand until the next calculation.

As with GIS, computation of the monthly benefit to be paid under GAINS depends upon the income of recipients in the calendar year preceding the current fiscal year. The amount to be paid each month to a single recipient is the difference between one-twelfth of the guaranteed level and the Basic Monthly Income, which is defined as one-twelfth of the recipient's income in the calendar year ending next before the commencement of the current calendar year plus any payments from the OAS/GIS programs. For example, for a single person with bank interest of $240 in the previous year, the GAINS payment would be calculated as in Table 1, based on January 1979 rates.

For each member of a couple the amount is based on the difference between one twenty-fourth of their income in the preceding calendar year and one twenty-fourth of the guarantee level.(6) Table 2 shows how the payment for a couple with a combined income of $1,800 from, say, bank interest and a private pension would be calculated.

For those qualifying for OAS under the new residence rules, there is a provision for a maximum GAINS payment, as now exists for GIS. That is, persons receiving a partial OAS pension could receive the maximum GIS monthly payment and the maximum monthly amount from GAINS, even if

their total income did not reach either of the guarantee levels. To qualify for GAINS under these circumstances, a person must reside in Ontario for one full year prior to the qualification date or have lived in Ontario for an aggregate period of twenty years after reaching age 18.

Table 1
Calculation of Monthly GAINS Payment for a Single Recipient, January 1979

Average monthly outside income, 1978	
$240 / 12	$ 20.00
Old Age Security	167.21
Guaranteed Income Supplement	137.28
Total income	$324.49
GAINS guaranteed income	343.37
GAINS payment	$ 18.88

Source Government of Canada, Old Age Security, Guaranteed Income Supplement, Spouse's Allowance Tables of Rates in effect January - March 1979; Ontario Ministry of Revenue, Guaranteed Income and Tax Credit Branch.

Table 2
Calculation of Monthly GAINS Payment for a Married Couple, January 1979

Average monthly outside income, 1978	
$1,800 / 12	$150.00
Old Age Security $167.21 x 2	334.42
Guaranteed Income Supplement $77.15 x 2	154.30
Total income	$638.72
GAINS guaranteed income	666.74
GAINS payment - couple	28.02
- each	14.01

Source Government of Canada, Old Age Security, Guaranteed Income Supplement, Spouse's Allowance Tables of Rates in effect January - March 1979; Ontario Ministry of Revenue, Guaranteed Income and Tax Credit Branch.

Payments from the program currently total $8 million per month. Of those currently benefiting from these payments, a substantial number, receive the maximum amount available (Table 3).

Table 3
GAINS Recipients, by Amount of Benefit, December 1978

	Single(a)	Married, both recipients
$2.50	3,034	2,301
2.51 - $5.00	4,515	3,258
5.01 - 10.00	8,105	6,028
10.01 - 15.00	8,424	6,762
15.01 - 20.00	9,057	6,879
20.01 - 25.00	10,102	6,938
25.01 - 30.00	11,852	7,142
30.01 - 35.00	15,804	6,879
35.01 - 40.00	94,577	6,763
40.01 - 45.00	-	6,369
45.01 - 50.00	-	6,505
50.01 - 60.00	2(b)	12,194
Total	165,472	78,018

a "Single" includes single, married with spouse ineligible, or married with spouse receiving Spouse's Allowance.
b The two receiving more than the single maximum of $38.88 would be persons not qualifying for OAS and thus guaranteed a higher level of benefits from GAINS.

Source Ontario, Ministry of Revenue, Guaranteed Income and Tax Credit Branch.

Tabulations of the sex of recipients are not kept consistently, but data from the GIS program provide some guide. They show that in mid-1978 some 62 per cent of Ontario GIS recipients were women. In addition, figures for recipients with the lowest level of outside income, who therefore receive the maximum payment from GIS, indicate that women outnumber men by a ratio of three to one - 60,227 women as against 21,341 men.(7) From these statistics it may be inferred that women are also the most numerous clients of the GAINS program.

In the coming years persons 65 and over can expect to have greater outside income, owing to the maturity of the Canada Pension Plan and private pension arrangements and to increased work-force participation of women. Unless there are major changes in the GAINS program, therefore, it can be seen as a transitional means of supporting those in need in the same way as the GIS does. We know that the proportion of OAS recipients receiving full payments under GIS has dropped from 19.1 per cent to 14.3 per cent in Ontario over the 1971-77 period, even though the guaranteed maximum has more than doubled in that time.(8) Figures for the GAINS program show that from a peak in January 1976, the number of clients and payments is steadily declining (Table 4).

Table 4
Clients and Payments under the GAINS Program, 1976 to 1979

	Clients		Total payments
	GAINS only	OAS/GIS/GAINS	
			(Dollars)
January 1976	6,193	276,144	10,338,000
January 1977	5,521	265,379	9,885,000
January 1978	3,959	253,928	9,029,000
January 1979	2,331	243,552	8,203,000

Source Ministry of Revenue, Guaranteed Income and Tax Credit Branch.

OTHER PROVINCES

Ontario is not the only province to supplement the incomes of needy persons 65 and over, though the amounts, rationale, and administration of the programs differ according to the jurisdiction. British Columbia, Alberta, Saskatchewan, Manitoba, and Nova Scotia have established similar programs.

British Columbia

This province was the first to provide an income-tested program for the senior population. The original MINCOME scheme, which began in 1973, was superseded in 1976 by the Guaranteed Available Income for Need Act (GAIN), bringing together previous acts governing social assistance and support programs for the elderly and handicapped. The program is based on need rather than income alone and takes assets into account. The Regulations define "assets" as

> "any form of cash, or equity in property, stocks, bonds, certificates, or other possessions that could be converted to cash, but do not include those items referred to in subsections 8(3) and 8(4) of these regulations.

8(3) The following shall not be deemed to be assets when determining eligibility for benefits:

(a) Necessary household equipment, wearing apparel, and business tools:

(b) An uncashed life insurance policy with a cash surrender value of $1,500 or less:

(c) Prepaid funeral costs:

(d) The family home partially or wholly owned and lived in by a recipient:

(e) The first motor-vehicle used for transportation:

(f) Moneys received or to be received from a mortgage on, or agreement for sale of the recipient's previous home used as his or her ordinary residence, provided such moneys are applied to the amount owing on a home being purchased by that recipient and occupied as his or her ordinary residence, or provided such moneys are used by that recipient, for the payment of rent for accommodation occupied as his or her ordinary residence:

(g) Fishing craft and fishing gear owned and used by a commercial fisherman:

(h) Seed required by a farmer for the next crop year:

(i) Essential equipment and supplies for farming and commercial fishing:

(j) Basic stock herd on a farm which is the breeding-stock held at the date of application for benefits, and female stock held for stock replacement.

(4) The Director may authorize that the total cash surrender value of an uncashed life insurance policy is totally exempt and not an asset for those who are handicapped and for those who are likely to be unemployable for a minimum of three months from the date of application for benefits."(9)

With this new Act the program was no longer essentially age-related, but rather provided general assistance to all those in need. However, some special provisions do exist for persons in certain age brackets. Those aged 60 and over are granted larger shelter allowances; additional asset exemptions may be authorized for those between 60 and 64; and persons aged 65 and over may be excused the asset test, up to certain limits.

Those receiving OAS and GIS are paid the provincial benefits automatically by the Department of Human Resources on the basis of lists supplied by the Department of National Health and Welfare. At the beginning of 1978, some 92,506 persons over 65 were receiving the provincial supplement.

GAIN guarantees a margin of income over and above the OAS/GIS payments, and the maximum payment for a single recipient is $38.88 per month, bringing the guarantee limit to $310.75 per month, in mid-1978. For a married couple the maximum payment is $49.83 each with a guarantee limit of $309.14 per month, each. The GAIN payment is reduced $1 for every $2 of other income.

Alberta

In 1973 Alberta set up a supplementary plan for the elderly with the passing of the Senior Citizens Benefits Act 1973, which provided a flat $10 per month to all OAS/GIS recipients resident in Alberta. In 1975 the program was renamed the Alberta Assured Income Plan (AAIP), and a scale of benefits was established from a minimum of $10 monthly to a maximum of $45.01. No application is required for benefits under the AAIP; as in other jurisdictions eligibility for the GIS is sufficient, provided the persons are permanent residents of Alberta. No qualifying period is required. Payments are made by the Department of Social Services and Community Health. The average number of recipients estimated in 1978 was 78,282 at a monthly expenditure of $2,797,924.

The program is income-tested, and provincial benefits are reduced $1 for every $4 of other income. The program guarantees a margin of income above the OAS/GIS limits, up to the maximum payment in 1978 of $45.01 for a single recipient and $47.20 each for a married couple. As with GAINS in Ontario, the province compensates the couple for the differing maximum payments of GIS based on marital status. When OAS/GIS amounts are escalated quarterly for the cost of living, the guarantee limit is revised accordingly.

Nova Scotia

Beginning in 1973 Nova Scotia set up a program of Special Social Assistance to provide once-a-year benefits to senior citizens on the basis of income and need.(10) The income test is that of the federal GIS and, once eligibility for payment has been established, application may be made for provincial supplements on the basis of need. Relevant definitions in the regulations are as follows:

(1)(e) "Needy person" means a person in receipt of a Guaranteed Income Supplement under the Old Age Security Act of Canada, who may be determined by the Director as a person who qualifies for Special Social Assistance pursuant to Part VI of the Act and Regulations made thereunder;

(f) "Person in need" means a person in receipt of a Guaranteed Income Supplement under the Old Age Security Act of Canada, who, on the basis of a needs test similar to the one established pursuant to the regulations under the Family Benefits Act and Part II of the Act that takes into account the person's budgetary requirements and the income and resources available to him to meet such requirements, is found to be unable to provide adequately for himself, or for himself and his dependents, or any of them;...

(6)(2) For the purpose of the test mentioned in the definition of "persons in need," the limitation of assets therein shall be:

(a) Fifteen hundred dollars cash or liquid assets where the person in need is single.

(b) Twenty-five hundred dollars cash or liquid assets where the person in need is married.

Application may be made in March of each year and, once need is established, grants are made on the basis of the amount of GIS received in March. Grants are made once a year in flat amounts of $75, $100, $135, or $150 for each eligible individual. Thus, each member of a married couple receiving GIS may apply.

Since a needs test is applied as well as the income test, the program is cost-shared with the federal government under the Canada Assistance Plan. In 1978 it covered between 50,000 and 56,000 persons; the annual cost is estimated at between $5 and $6 million.

Manitoba

The Manitoba Supplement for the Elderly (MSE) came into operation on July 1, 1974, under the authority of the Social Services Administration Act. The program guarantees a level of income to recipients, based on eligibility for GIS. No application is required, with pensioners qualifying on the basis of income and residence in Manitoba. Income is defined as for the GIS program including earned income, bank or bond interest, and pension payments including Canada Pension. Such items as War Veterans' Allowances are not deemed to be income.

Payments are made quarterly by the Department of Health and Social Development at the end of January, April, July, and October. Payment amounts are not adjusted, but the guarantee ceiling is raised each quarter to reflect the federal cost of living increases.

In mid-1978 the annual guarantee limit was $3,356.28 for a single pensioner and $6,425.76 for a couple. The maximum quarterly payment is $23.46 single and $25.29 each for a couple, offsetting the GIS differential based on marital status. During the 1977/78 fiscal year, some 28,000 payments per quarter were made, and the annual cost for the benefit was $2.3 million.

Unlike other provinces, Manitoba extends its benefits to persons between 60 and 64 who are receiving the Spouse's Allowance. The maximum payment is the same as for a couple when both are pensioners, namely $25.29 each per quarter. When partial OAS benefits become payable, recipients may also qualify for the Manitoba benefit on the basis of personal income and the amount of GIS received.

Saskatchewan

Saskatchewan, the sixth province to introduce a supplement for the needy elderly, enacted its Income Plan (SIP) in October 1975. The program guarantees a level of benefits over and above the federal OAS/GIS payments, and as is the case in some other provinces no application is required for the Saskatchewan supplement. The application for GIS, based on income as defined in that program is sufficient to establish eligibility for the supplement.

Payments are made by the Department of Social Services at the beginning of each month, and when the federal OAS/GIS benefits are escalated to reflect changes in the cost of living the ceiling on the provincial guarantee is raised accordingly. The level of provincial benefits is adjusted annually to reflect any changes in outside income that affect the GIS amount. Benefits are reduced according to the amount of any GIS reduction in the GIS payable according to category of recipient:

- $1 for every $1 reduction in GIS for single persons or couples where both are pensioners;

- $3 for every $1 reduction in GIS for a couple where only one is a pensioner;

- $1 for every $3 for couples of one pensioner and one Spouse's Allowance recipient.

Maximum payment from the SIP in the fall of 1978 was $25 for a single person, a married person whose spouse was not a pensioner, and $25 each for couples when one was in receipt of a Spouse's Allowance. For each person in a married couple when both were pensioners, the maximum was $22.50. As of September 1978 some 35,000 persons were receiving benefits from the program.

NOTES

(1) S.O. 1974, c. 58.

(2) Statistics Canada, Income Distributions by Size in Canada, 1976, Cat. 13-207, p. 24; Senate Special Committee on Aging, Final Report (Ottawa, 1970); Ian Adams, et al., The Real Poverty Report (Edmonton: M.G. Hurtig Limited, 1971).

(3) An Act to Amend The Ontario Guaranteed Annual Income Act, 1974, S.O. 1977, c. 50.

(4) Ministry of Revenue, Ontario Guaranteed Annual Income System (April 1978) p. 3.

(5) An Act to Amend The Ontario Guaranteed Annual Income Act, 1974, s.3(1) provides as follows:

> "...and for the purpose of determining the entitlement of any person to an increment or of determining the amount thereof, the Minister may treat an application under the Old Age Security Act (Canada) for a supplement or a statement of income furnished under that Act as an application or statement, as the case requires, under this Act, and when so treated, such application or statement shall be deemed in application or statement under the Act."

(6) Ibid., 1(d).

(7) Department of National Health and Welfare, Ottawa, June 1978.

(8) Statistics Canada, Social Security National Programs, Cat. 86-201 (Ottawa, 1978), p. 525.

(9) S.B.C. 1976, c. 19.

(10) An Act to Amend Chapter 16 of the Act of 1970, the Social Assistance Act, S.N.S. 1973, c. 72.

The Consumer Price Index

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From its beginning in the early 1900s, the Consumer Price Index for Canada has evolved into a detailed and comprehensive measure of the percentage change through time in the cost of purchasing a constant "basket" of goods and services representative of the purchases of a particular population group in a specified time period. This paper outlines the origins of the CPI in Canada and its development into the sophisticated tool of today, capable of measuring price movements of some 650 items and expressing the combined effect in a monthly index. In addition, this study discusses the relationship of the CPI to spending patterns of the pensioner. It also examines some studies that have been carried out on separate CPI measurements for selected groups within the population to see if a "pensioner index" such as is frequently proposed would in fact be an improvement on the CPI as a measure of pensioners' needs.(1)

Authority for Statistics Canada to compile a consumer price index derives from the Statistics Act, passed in 1918, which provided for the collection of general statistics on demography, employment, finances, trade, and other related matters.(2) The list has since been expanded to include prices and the cost of living.

The history of the CPI and how it was constructed over the years since the passage of the Act has been outlined briefly by Statistics Canada:

> "The first study on Canadian retail price changes, based on the cost to the consumer of a selection of goods and services, was undertaken in the early 1900s by Mr. R.H. Coats of the Department of Labour, who subsequently became the first Dominion Statistician. Prices for 29 food items and for five fuel and lighting items were gathered in approximately 60 cities, and these were related to a hypothetical family budget representing the weekly consumption of an urban working class family of five. Information was also obtained on the prevailing rent for a representative workingman's dwelling. Derived from these data, index numbers with the base 1900 = 100 were constructed for Canada and the provinces. The calculation of retail price changes relating to this family budget (with rent for a six room dwelling) was continued until August 1940.
>
> "In addition, the Department of Labour also produced a 'Cost-of-Living Index' with base 1913 = 100. This was published semi-annually from 1914 to 1917, quarterly from 1918 to 1926, and monthly from 1927 forward. Group indexes for food, fuel and lighting, rent, clothing and sundries were given. An attempt was made to weight the commodity groups according to their actual importance, but no extensive family budget survey was carried out.

"The first Dominion Bureau of Statistics index of retail prices also had the base 1913 = 100. This index was calculated using prices from the Department of Labour series as well as those obtained directly from retailers. The weights used for this index were based on estimates of the total consumption of each commodity in 1913. It was subsequently presented in a revised form with base 1926 = 100, at which time the number of priced commodities was greatly increased and a system of sub-group and group weights were used. The whole weighting system was again based on estimated aggregate consumption in Canada.

"The index was subsequently revised in 1940 and placed on the base 1935-1939 = 100. On this occasion there was a change in the method of deriving the weights, which were obtained from a family budget survey conducted in 1938 of urban wage-earner families with annual earnings from $450 to $2,500.

"A subsequent family expenditure survey for the period 1947-48 provided the basis for the next thorough re-examination of the index. At that time its base was changed to 1949 = 100 and its title 'Cost-of-Living Index' was abandoned to avoid any implication that the index is a measure of all changes in living costs. At that time also, a definition of the index was established which remains essentially unchanged today.

"Soon afterwards, a series of small-scale biennial surveys of family expenditure was instituted to provide a basis for decisions on the need for subsequent revisions of the index. By 1957 and again in 1967, changes in urban spending patterns were deemed sufficient to warrant further revisions to the Consumer Price Index, which took place in 1961 and 1973 respectively."(3)

Effective September 1978 a further revision was made on the basis of results of the 1974 Urban Family Expenditure survey carried out by Statistics Canada. As can be seen from the short history of the CPI, its application has become more general over time, with an expansion in the number of items to be surveyed, broadening of the population, and a more frequent revision of the index. The latest revision continues this trend. Before looking at the recent changes, however, we must understand how the index actually works.

UNDERSTANDING THE CONSUMER PRICE INDEX

The CPI is a comprehensive measure of the percentage change through time in the cost of purchasing a constant "basket" of goods and services representative of the purchases of a particular population group in a specified time period. An explanation of each of the underlined phrases follows.

Change Through Time

The CPI is quoted as a percentage of a base year value, at present 1971 = 100. The base has, to date, been changed at about ten-year intervals, and we might therefore expect an update on the basis of 1981 data.

The value of all items in the current survey is deemed to equal 100 on the scale in terms of 1971 prices, and the current index therefore marks their movement up or down from that value. For example, in September 1978 the index for television sets stood at 86.3 and for dwelling insurance at 334.8. This means that television sets now cost 86.3 per cent of what they did in 1971, and dwelling insurance costs more than three times as much as it did in 1971. Also, in September 1978 the index for butter was 194.4 and for margarine was 215.8; this does not mean that margarine now costs more than butter but simply that its price has risen faster from its 1971 level.

In the present index some items that reflect changed buying habits or lifestyle were entered on the basis of 1973 = 100. A few of them are: frozen foods; prepared and partially prepared dishes and snacks; women's sports and casual wear; coin laundry and dry cleaning; hair preparations; stereo combinations; pet expenses; and education fees.

Constant Basket of Goods and Services

Every two years, Statistics Canada carries out a survey of Urban Family Expenditure to determine the spending patterns of the Canadian urban population. On the basis of these findings the most important items that are representative of the average spending patterns are selected for inclusion in the CPI measurement. Nearly 400 elementary groups of items make up the "basket" of goods and services and are chosen according to two major criteria: Only those items that have a price and for which a "pure" price change can be measured - that is, a price change that is not related to a change either in the quality or quantity of a good or service - are included. This is necessary to ensure that the "basket" remains constant over time, since products change or they may be improved, downgraded, or packaged differently, all of which can affect their price. For example, anyone who has recently purchased a chocolate bar has observed the reduced quantity supplied for the price. Another example occurred when seat belts in cars were made mandatory and their cost was added to the purchase price of cars. Since this new price reflected a change in the quality of the product, the survey had to determine what cost increase, if any, would have occurred without the enforced change in quality, and the CPI was adjusted only for the "pure" price change.

The total "basket" is divided into seven major categories: food; housing; clothing; transportation; health and personal care; recreation, education, and reading; tobacco and alcohol. Each category is further

subdivided into groups ("fruit and vegetables"), sub-groups ("fresh fruit") and items ("oranges"). In total, price changes for about 650 items are observed, though not all of them on a monthly basis.

> "The pricing cycle starts in the latter part of each month and extends to the middle of the following month; for example, supermarket pricing takes place on the first Wednesday, Thursday and Friday of each month. Although prices of most CPI items including food, clothing, pharmaceuticals and gasoline are collected every month, some are priced less frequently. For example haircuts and dry cleaning are normally priced quarterly; automobile insurance is priced semi-annually and property taxes are priced on an annual basis. However, such goods and services scheduled for pricing at less than monthly intervals will be priced in any month when there is evidence to suggest that significant price changes may occur prior to the next regularly scheduled pricing."(4)

The items included are chosen because of their importance in the buying patterns of the people surveyed. Once the weight of an item or category is assigned - that is, the proportionate importance of the item to the whole basket - the individual items are chosen on which price measurements will be made. For example, "food" may make up 20 per cent of the basket, with "food for home consumption" making up 17 per cent. Of that portion, "meat and poultry" might make up 6 per cent, with "beef" at 3 per cent and "rib cuts" at .25 per cent. These percentage figures are the weights of the various items, sub-groups, or groups in the whole.

Items are selected by Statistics Canada field workers who sample in supermarkets, specialty shops, department stores, garages, hairdressers and so on and consult trade publications. In many cases they would consult with store managers or owners to determine what variety, size, or brand would be most representative of the average expenditure pattern. In this way, measurements can be assumed to reflect the price changes encountered by the average consumer. In their discussions the field workers try to identify the popular brands of the items in question and do not simply include the middle-priced brand or the medium-sized commodity. For example, perhaps because of fashion trends Pierre Cardin shirts may more closely reflect the price changes faced by the average buyer than do Arrow shirts; the king size detergent box may well outsell the giant size for reasons not related to price such as cupboard storage, weight when carried down to an apartment laundry, and so on. The criteria used for inclusion are that the items must meet certain quality standards and must be offered for sale in reasonable quantity. The prices reflected in the CPI are those that any member of the public would have to pay on pricing day to purchase the specific goods or services.

In some cases the item to be priced may be precisely specified; in other cases the national specification may be quite broad, and field workers may actually be pricing different varieties or brands of the

given item in different outlets. As an example of a specific description, the national description of a "standing prime rib roast of beef" reads in part as follows:

> "Grade A, red brand steer beef; bone in, short cut (7 inches); roast cut from the 5-bone rib section next to the wing, called 'prime rib section'; regular standing rib cut, no special trim such as 'Chef Style,' not frozen; price of 1 pound (454 g.)"(5)

Over long periods of time it sometimes becomes undesirable or impossible to collect prices for the same item because of changes in consumer preference or discontinuance of the particular item. Substitutes are chosen in such cases, with specifications being revised accordingly and price quotations adjusted to eliminate changes attributable to quality differences. The technique is called "splicing"(6) and requires simultaneous observation of the new and old items for the transition period. Splicing is also used when retail outlets have to be changed because of the closing of a store, for example, or because the sample to be priced must be reviewed as a result of qualitative changes. Some commodities, however, are not suitable for the splicing technique because the underlying assumptions about quality differences do not apply or because the old and new prices are not available simultaneously in the replacement period. For commodities such as automobiles, household appliances, home furnishings, and clothing, for example, it is necessary to make a more direct assessment, based on cost analyses, of the impact of differences in quality on prices. In such cases manufacturers and merchandisers are consulted.

Price movements can also be imputed from one item to another in the same elementary group; for example, the price of skim milk is assumed to move at the same rate as that of homogenized milk, and therefore only one would be observed and any price change would be imputed to the other. Imputing is also used in a historical sense when a new product is added. For instance, when the new macaroni-based prepared dishes in the "partially prepared food" category were introduced in 1973, the price movement of packaged, uncooked macaroni between 1961 and 1971 was used as a historical proxy. This latter technique is referred to as "linking."(7) Splicing and linking procedures allow for maximum consistency in the "basket" of goods and services to be priced and therefore measure, as closely as possible, the "pure" price changes desired for the index.

A Particular Population Group

Between 1967 and 1978, the CPI target population for spending pattern data was expanded from the restrictive definitions of the earlier years to cover urban families living in private households ranging in size from two to six persons, with annual incomes in 1967 of $4,000 to $12,000. In this context "urban" referred to metropolitan centres with

populations of 30,000 and more, and the 1971 census showed that there were fifty-nine such centres for CPI calculations:

> "For CPI purposes, 'urban centres' refers to Census Metropolitan Areas (CMAs), to Census Agglomerations (CAs) and to those incorporated cities not part of the CMAs and CAs; two exceptions are the Ottawa-Hull CMA, which has been split into two parts because of the provincial boundary, and the combination of Charlottetown and Summerside, which is considered a unit in order to provide an urban CPI for Prince Edward Island."(8)

Not all items are priced in all the urban centres. Separate CPIs are now published for fifteen centres each month.(9) A further eighteen centres have been included in the sampling for some time, though prices are monitored for only about three-quarters of the items covered in the fifteen cities' index.(10) In another group of eighteen centres, prices of about one-half the items covered in the fifteen cities' index are monitored, with concentration on food and rent.(11) And in a final group of eight centres price changes are observed only for rents and a few other items.(12)

"Family" for the Urban Family Expenditure survey is an expanded "economic family," as defined by Statistics Canada:

> "The family or spending unit is defined as a group of persons dependent on a common or pooled income for the major items of expense and living in the same dwelling or one financially independent individual living alone. Never-married sons or daughters living with their parents are considered as part of their parents' spending unit. In the great majority of cases the members of spending units of two or more are related by blood, marriage or adoption and are thus consistent with the 'economic family' definition employed in surveys of consumer finance....It should be noted that according to the 'economic family' definition, unrelated persons living in the same household would be counted as unattached individuals, whereas in the expenditure survey it is possible for two or more unrelated persons to comprise one spending unit."(13)

With the revision of September 1978, the previous restrictions on family size (from two to six persons) and income ($4,000 to $12,000 in 1967) were dropped, which means that unattached individuals are now included. The concept of a "target population" has thus evolved into a measure of the total population in urban private households.

A Specified Time Period

Not only is the CPI expressed as an index above a base year figure, but each month it shows as a percentage increase over the previous month and over the same month in the preceding year. To find the current rate of change Statistics Canada uses a three-month moving average that

smooths out the peaks and valleys of the month-to-month changes in some prices and more closely mirrors the underlying trends. The three-month moving average is obtained by averaging the rate of change in the particular month in a period and the rates for the preceding and succeeding months. For example, the increase for June would be the average of the rate of price change in May, June, and July, and this would then be multiplied by 12 to get the annual rate of increase in the CPI in June.

Over time, four types of change in consumer prices can be observed:

- the long-term trend, which in post-war Canada has been gradually and smoothly upward;

- cyclical - that is, associated with the business cycle, which in Canada rises and falls over periods of between three and seven years; and which, when coupled with the long-term trend, gives an upward but uneven profile; and

- seasonal movements, both shorter and sharper than the cyclical.

"Shocks" that are irregular and often unpredictable - for example, strikes, crop failures, and OPEC oil price increases.

Statistics Canada does not quote seasonally adjusted figures for the Consumer Price Index. The agency has found that most people simply wish to know the current index and are not sufficiently interested in the underlying seasonality of the measurements. The use of a seasonally adjusted scale on a general basis is not, therefore, significant enough to outweigh the problems associated with its use - for example, the confusion when trying to make point-to-point comparisons.

However, approximately one-third of the items in the current CPI exhibit enough seasonal change to warrant adjustment before publication. In order to identify the seasonal factor, which is the only one for which separate figures are issued, the long-term trends and business-cycle movements are eliminated by a computer program, leaving only seasonal changes and "shocks" in the figures.(14) To be taken into account, seasonal effects must have appeared consistently at a particular time for a certain period, say three to five years. Examples of normal seasonal fluctuations would be the entry of Canadian produce into the market each summer, pre-Christmas retail buying, and January sales. Seasonal adjustment, therefore, eliminates these fluctuations in order to reveal the changes that result from other factors.

THE 1974 REVISION OF WEIGHTS

While the elimination of the family size and income restrictions in the October 1978 revision was an important change in the calculation of the CPI, a more fundamental alteration was the adjustment of weights for

various components to reflect the spending patterns established in the 1974 survey of Urban Family Expenditure. This resulted in some readjustment of the importance of some of the categories, since the previous CPI weights were based on the 1969 survey, which measured prices in 1967. Table 1 shows the relative importance in the "basket" of the major components in the old and new series.

Table 1
Comparison of 1967 and 1974 Expenditure Weights Used in the Consumer Price Index, by Major Component

	1974	1967
All items(a)	100.0	100.0
Food	21.5	24.8
Housing	34.1	31.4
Clothing	10.1	11.3
Transportation	15.8	15.2
Health and personal care	4.0	4.5
Recreation, reading, and education	8.3	6.9
Tobacco and alcohol	6.2	6.0

a Detail may not add to 100 per cent because of rounding.

Source Statistics Canada, The Consumer Price Index, Cat. 62-001, (February 1979), p. 19.

These weights represent 1974 quantities valued in 1974 prices and 1967 quantities valued in 1967 prices. The new indexes were "linked" to the old in September 1978 to ensure that the series remains conceptually equivalent over time. The base is still 1971 = 100 except for Charlottetown-Summerside, which was added in 1974 to the cities' index.

Table 1 shows that the proportion of total expenditures on food, clothing, and health and personal care, has diminished to varying degrees; the share of expenditures of the other component has increased.

A more detailed comparison appears in Table 2, which examines the old and new weights in terms of the old and new family size and income constraints in 1967, 1974, and September 1978 dollars. Statistics Canada cautions that only those values expressed in prices of the same period may be compared for the purpose of detecting the possible impact of quantitative changes between the 1967 and 1974 baskets on the all-items CPI for Canada.(16) Such a comparison in Table 2 is found in the "1967 basket in 1974 prices" and "1974 prices without constraints" categories. The comparison shows a greater decline for food, almost none for clothing, and health and personal care; a lesser increase for housing; and a greater increase for transportation; recreation, reading and education; and tobacco and alcohol than did the figures in Table 1, which were based on 1967 and 1974 dollars, respectively.

Table 2
Comparison of Weights of Major Components(a) of CPI, 1967 and 1974 Baskets, for the Urban Population, (b) with and without Family Size and Income Constraints,(c) Using 1967, 1974, and 1978 Prices

	Food	Housing	Clothing	Transportation	Health and personal care	Recreation, reading, and education	Tobacco and alcohol	All items
					(Per cent)			
Values of 1967 basket								
In 1967 prices, with constraints	24.80	31.39	11.27	15.18	4.51	6.89	5.96	100.0
In 1974 prices, with constraints	28.00	31.73	10.04	14.17	4.17	6.42	5.47	100.0
Values of 1974 basket								
In 1974 prices, with constraints	21.25	35.27	9.84	16.12	4.00	7.53	5.99	100.0
In 1974 prices, without constraints	21.49	34.06	10.12	15.84	3.96	8.29	6.24	100.0
In 1978 prices, without constraints	22.48	34.61	8.89	15.99	3.98	7.72	6.33	100.0

a The 1967 and 1974 baskets do not have the same classification by commodity groups. At the level of the major components, however, the differences in classification are negligible and do not affect the comparability of weights.
b Refers to private households living in Canadian urban centres with a population of 30,000 or more.
c With constraints means families from two to six persons with an annual income ranging in 1967 from $4,000 to $12,000. Without constraints means unattached individuals and families of any size, irrespective of income.

Source Based on Statistics Canada, The Consumer Price Index: Revision Based on 1974 Expenditures, Cat. 62-546 (Ottawa, 1978), Appendix IV.

APPLICATION OF THE CONSUMER PRICE INDEX

The CPI is used widely as a guideline for negotiated wage increases and cost of living allowances (COLA) and for discretionary increases in wages, salaries, or fringe benefits. In addition, legislation frequently ties increases in payments or exemptions in government programs specifically to the Consumer Price Index in order to preserve their "real" value. Some examples include the Income Tax Act, which allows for the indexing of personal exemptions according to the CPI; War Veteran's Allowances and the Old Age Security program (which includes the Guaranteed Income Supplement and Spouse's Allowance) escalate their payments every quarter (January, April, July, October) for changes in the CPI; Canada Pension Plan benefits are increased each January to reflect CPI increases, as are payments of Family Allowances and other federal pension benefits.(17) In some cases legislation simply provides authority for increased payments based on the cost of living, without defining cost of living or its measurement,(18) and in other cases reference to the CPI might be made from time to time for the purpose of escalating premiums or benefits, without requiring any legislative authority for such increases.(19)

THE CPI AND PENSIONERS

Since the two tiers of government pensions (OAS/GIS and CPP) are now tied to the CPI, its importance as a measurement is obvious. But frequent calls have been heard for the development of a "pensioner index" which, it is argued, would be more relevant as a guide for the escalation of pension benefits. Before developing a new index based on pensioners' spending habits it is important to see if those spending habits differ from those of the rest of the population, and if so, how; and to examine those components of the CPI "basket" that absorb the greatest share of pensioners' incomes to see if they have increased or decreased differently from the whole "basket."

The latest CPI revision, which eliminated the restrictions on family size and income, means that the overall target population represents the retired more closely than the earlier measure. We know, for example, from the 1971 census which is the basis for the selection of the urban centres for CPI purposes that the older population was "urban" to about the same extent as the total population. Table 3 shows us that in 1971, 58.5 per cent of the total population and 54.8 per cent of the population 65 and over lived in the urban target areas with 30,000 or more persons.

We also know from census figures that older women fall largely into the "single, widowed, and divorced" categories and that the elimination of the family size restrictions will increase the pertinence of the survey to that older single female population who are at the lower end of the income scale. For purposes of comparison, figures for 1971, on which

the 1974 Expenditure Survey was based, are contrasted with comparable data for 1976 in Table 4.

Table 3
Urban and Rural Residence by Size of Centre, for Total Population and Population 65 and Over, 1971

	Total population	65 and over
	(Per cent)	
Urban	76.1	75.7
100,000 and over	47.5	46.1
30,000 to 99,999	9.0	8.7
10,000 to 29,999	8.1	7.8
Less than 10,000	11.5	13.1
Rural	23.9	24.3
Farm	6.6	4.7
Non-farm	17.3	19.6
Total	100.0	100.0

Source Statistics Canada, Perspective Canada II, Cat. 11-508, p. 43, Table 3.6.

Table 4
Population by Age Group and Sex, 1971 and 1976

	Married	Single	Widowed	Divorced
		(Per cent)		
1971				
Male				
15-64	64.1	34.0	0.9	1.0
65 and over	71.8	10.6	16.7	0.9
Female				
15-64	67.4	27.0	4.2	1.4
65 and over	39.2	10.7	49.4	0.7
1976				
Male				
15-64	63.9	33.9	0.7	1.4
65 and over	73.8	9.5	15.2	1.2
Female				
15-64	67.1	26.7	3.9	2.3
65 and over	38.9	10.2	49.8	1.0

Source Statistics Canada, Census of Canada, 1971, Cat. 92-730, Vol. 1.4; and Census of Canada, 1976, Cat. 92-825, Vol. 2.

While not all unmarried people live in single-person households, the extension of the definition of family could incorporate up to 28 per

cent of the senior men and 60 per cent of the senior women. The widened definition of family now covers virtually all but the nursing home population. Table 5 shows the living arrangements of the senior population and indicates that a sizeable proportion of the older females live alone.

Table 5
Living Arrangements of Persons 65 and Over by Sex, 1971

	Male	Female
	(Per cent)	
Living in a family(a)	74.1	53.5
Own family or group(b)	8.1	12.7
Total family	82.2	66.2
Living alone(c)	11.1	24.6
Living in collective housing(d)	6.7	9.2
Total	100.0	100.0

a The family in this case is the "economic family."
b Includes persons living with economic families of which they are not a member and persons sharing the household with other non-family persons.
c Does not include persons living alone in collective housing.
d Includes persons living in hotels, motels, nursing homes, staff residences, military and lodging houses, and other institutions.

Source Statistics Canada, Perspective Canada II, Cat. 11-508, Table 3.10, p. 45.

More critical than the family size definition, however, is the former limitation to families "with $4,000 to $12,000 income in 1967" - the middle-income group. Income distribution figures indicate that incomes of the senior population are below the average for all age groups (Table 6). The removal of the income limitations has, therefore, eliminated the bias against lower-income families that would have excluded many of those 65 and over.

Table 6
Average Family Income for All Families and for Those Headed by Persons 65 and Over, 1967-76

	All families	Families 65 and over
	(Dollars)	
1967	7,702	5,211
1976	19,000	11,848

Source Statistics Canada, Income Distributions by Size in Canada, 1967, Cat. 13-534, p. 21, Table 4; and Income Distributions by Size in Canada, 1976, Cat. 13-207, p. 40, Table 4.

In summary, the new definition of urban families included in the Expenditure Survey means that the population surveyed is as relevant to those 65 and over as to the whole population. Once we are satisfied that the sample is not biased against seniors, we must examine how their spending patterns compare with those of the population as a whole.

Spending Patterns

The 1974 survey, which forms the basis of the new CPI measurement, shows the proportion of budget spent on the major items in the survey by the total population and those 65 and over without the old family size and income constraints (Table 7).

From Table 7 it is clear that the population 65 and over spends a substantially larger proportion of income on food and shelter than does the general population. Medical and health care costs take marginally more of seniors' incomes. Whether the differences in food, shelter, and transportation costs warrant a separate index for pensioners is questionable.

The senior population may well be spending less money on food than their younger counterparts, but because of their lower average incomes it absorbs a higher percentage of their budget. In addition, the food is consumed predominantly at home, with "food and beverages in eating places" absorbing an average of $4.64 per week for the older families against $11.67 for families headed by someone under 45, and $2.57 for unattached individuals 65 and over compared with $10.43 for those under 45.(20) Buying habits show that the diet of the senior population includes large amounts of not very nutritious food, such as cookies, cakes, soft drinks, candy, gum, and marshmallows. Choices in buying are not, therefore, made solely on the basis of financial resources, since many of the above items are higher priced than some that would provide proper nutrition.

With the revision of weights between the 1967 and 1974 surveys, the amount spent by all groups on "food" decreased from 28 per cent to 21.5 per cent of the "basket" in 1974 prices (see Table 2). Statistics Canada continued to measure the CPI from 1974 to 1978 according to the "old" series for purposes of comparison and found that the "new" series yields a slightly lower index than the old over that period. The explanation is that expenditures on food, which tended to rise more rapidly than those on non-food items over the period, absorbed a smaller proportion of the basket and therefore had less effect on the "new" measurements.

> "During the period under consideration, however, food prices were not constantly rising at a higher rate than other prices and, therefore, the divergence between the two All-items consumer price index series was not cumulating consistently through time. The divergence increased in 1975 up to the month of June, then remained stable up to November of that year. From December 1975 to April

Table 7
Proportion of Budget Spent, by All Families and Unattached Individuals and All Families and Individuals 65 and Over, by Item, 1974

	All	65 and over
	(Per cent)	
Food	17.2	22.2(a)
Shelter	15.0	21.5(a)
Rented	5.5	9.6(a)
Owned	6.4	6.9(a)
Other	.7	.7
Water and fuel	2.4	4.2(a)
Household operation	3.7	4.7(a)
Furniture and equipment	4.9	3.9
Household appliances	1.1	.8
Other	3.8	3.1
Clothing	7.1	5.9
Personal care	1.7	2.0(a)
Medical and health care	2.1	2.8(a)
Smoking and alcohol	3.4	2.9
Travel and transportation	12.2	9.5
Automobile	9.5	7.0
Purchase	4.5	3.1
Operation	5.0	3.9
Other	2.7	3.5(a)
Recreation	3.9	3.5
Reading	.6	.8(a)
Education	.8	.1
Miscellaneous	2.1	1.6
Total current	74.5	81.5(a)
Personal taxes	18.4	11.6
Security	5.0	2.3
Gifts and contributions	2.1	4.6(a)
Total expenditure	100.0	100.0

a Items on which the senior population spends a greater proportion than the general population.

Source Statistics Canada, Urban Family Expenditure, 1975, Cat. 62-544, pp. 14-15, Table 7.

1976 the divergence decreased to the point that it totally disappeared in April 1976, and then remained at a very low level up to January 1977 (during that time, food prices were rising at a rate similar to or lower than those for non-food prices). From January 1977 to July 1978 the divergence grew rapidly but this latter tendency was again reversed in August and September 1978. In September

1978 the All-items index of the "new" series was 138.4, whereas the corresponding index of the previous series was 142.0. This represented a difference of 2.6 per cent, accumulated over a period of almost five full years."(21)

In other words, the indexed portion of the senior population's income rose higher because of price increases in non-food items than it would had the CPI been based on food alone. Statistics Canada also noted that:

> "For Food, the 'new' series indexes are higher than those of the previous series up to the end of 1977 [emphasis author's]. This ...may be explained to a large degree by a combination of the following factors:
>
> - among food products, meat (in particular beef) had a relatively larger share in the 1967 basket than in the 1974 basket, while the reverse was true with respect to Food away from home;
>
> - meat prices (in particular, beef prices) rose less than the overall Food price index between January 1977 and the end of that year, while the reverse was observed with respect to prices for Food away from home."(22)

Since "food away from home" is a much smaller budget item for the over 65 than for the younger population, its heavier weight in the new "basket" means that much of the contributing factor to the rise in food prices does not significantly affect those 65 and over. The relevance of a "food only" index for pensioners, given its decreased importance in the whole "basket" for pensioners, would, therefore, be questionable.

Between those 65 and over and the rest of the population, the disparity in the percentage of their budget spent on shelter is even greater than it is for food. The greatest divergence is in the "rent" portion even though rents have risen less quickly than have some of the costs of home ownership. The weights in the new CPI basket for tenancy costs fell from 8.40 to 6.76 while home ownership costs increased from 9.48 to 11.90. This is explained by the differing rates at which the components of the shelter portion have increased in price. For example, from January 1971 to December 1977, on the basis of 1971 average = 100, the index for some items showed the following increases:

	January 1971	December 1977
Mortgage interest	96.4	206.2
Property tax	99.9	151.8
New houses	96.4	185.9
Rent	99.4	129.8(23)

Both renters and owners in the over 65 age group have been somewhat protected from the rise in some of the shelter costs. The program of rent control and review introduced in 1975 in Ontario has slowed rental increases for the 30 per cent of senior household heads who rent their accommodations. Those who own are primarily not recent purchasers of homes and therefore are not faced with the escalating purchase prices. Few of them have mortgages (7.3 per cent of family heads in Ontario 65 and over) and if they do they have lived in their homes for longer periods than the younger population (59.5 per cent have lived there for more than 10 years, as against 32.9 per cent for all household heads in Ontario) and consequently any mortgage is likely to have been negotiated in the days of lower interest rates.(24)

Table 7 shows that household operation absorbs a slightly higher percentage of the budget of the population 65 and over than of the younger groups. Without knowing behaviour patterns it is difficult to identify the reasons for the increased proportion of budget, though one might hypothesize that older people must pay for some services, such as snow-shovelling or installation of storm windows, that younger people perform for themselves.

Transportation costs in general and "automobile" costs in particular are lower for those 65 and over than for the general population. However, there is a small difference in the "other transportation" category that might reflect the need to take taxis or pay for public transportation. Discounts are provided on public transportation, but increased usage at half fare might still produce a higher cost, when coupled with taxis, than full fare expenses for the younger persons in our car-dominated society. Older people can also take advantage of reduced fares on trains, buses, and airlines to travel for pleasure to a greater extent than the younger population. The divergence in spending patterns is not sufficiently great to jeopardize the relevance of the CPI to the target population.

A further item - gifts and contributions - should be considered in this discussion of spending patterns. While this category absorbs only 4.6 per cent of the senior's budget, that is more than double the figure for the total population (2.1 per cent) and is greater than the portion spent by seniors on some necessities and recreation. In other words, what the population 65 and over chooses to spend its money on still allows for these discretionary expenditures that could be transferred to food, housing, or clothing if need be. Such a decision may have less to do with available financial resources than with social pressures, but it suggests that for some at least, there is room in the budget for extras.

Only in two major sectors, therefore - food and shelter - are there appreciable differences in spending patterns, and the arguments for a separate CPI based on these divergences are not convincing.

Income Levels

Spending patterns for many in the 65 and over group resemble those of low-income groups, particularly in the food component. Table 8 compares spending of low-income families and unattached individuals with low incomes with that of the 65 and over group.

Table 8
Proportion of Budget Spent by Item, for Families and Unattached Individuals 65 and Over, and Low-Income Families and Unattached Individuals, 1974

	Families and unattached individuals	Unattached individuals	Families of two or more
	65 and over	Low income	Low income
	(Per cent)		
Food	22.2	28.4	30.9
Shelter	21.5	33.4	23.4
Rented	9.6	24.7	14.2
Owned	6.9	4.5	4.4
Other	.7	.2	.3
Water and fuel	4.2	4.0	4.5
Household operation	4.7	5.4	5.2
Furniture and equipment	3.9	3.3	4.6
Household appliances	.8	.5	1.3
Other	3.1	2.9	3.3
Clothing	5.9	5.5	7.2
Personal care	2.0	2.1	2.2
Medical and health care	2.8	2.5	2.5
Smoking and alcohol	2.9	3.9	4.0
Travel and transportation	9.5	4.9	7.8
Automobile	7.0	1.7	5.2
Purchase	3.1	.6	1.9
Operation	3.9	1.2	3.2
Other	3.5	3.1	2.6
Recreation	3.5	3.2	3.0
Reading	.8	.9	.7
Education	.1	.5	.7
Miscellaneous	1.6	1.3	2.2
Total current	81.5	95.3	94.4
Personal taxes	11.6	1.0	2.6
Security	2.3	.5	1.5
Gifts and contributions	4.6	3.2	1.5
Total expenditure	100.0	100.0	100.0

Source Statistics Canada, Urban Family Expenditure, 1974, Cat. 62-544, pp. 14, 15, and 174.

We know from income studies that those 65 and over are represented disproportionately in low-income groups, and particularly in the unattached individuals category. Figures for 1976 show that family heads

and unattached individuals aged 65 to 69 comprised 5.9 per cent of the total population, but 10.7 per cent of the lowest income quintile, and 8.8 per cent of the second quintile; those 70 and over comprise 11.1 per cent of the total, but 31.2 per cent of the lowest and 15.1 per cent of the second quintile.(25) We must therefore expect that many of the same people will figure in the "65 and over" and the two "low income" columns of Table 8, emphasizing the distortion in spending patterns.

Based on these figures we might conjecture that what sets the older population apart from the rest, in relation to the CPI, is not their age but rather their income level. We should then ask ourselves if, rather than designing a "pensioner index" as a solution to the maintenance of purchasing power for the retired, a "low-income" index would be more appropriate. Studies that have explored such an option have concluded that it would not.

A study prepared by Statistics Canada reweighted components based on the 1969 Family Expenditure Survey and prepared a comparative CPI for low-income families. The resulting figures are shown in Table 9.

The study found that the official CPI over the period from June 1973 to June 1977 (that is, following the serious dislocation of expenditures resulting from the OPEC oil price increases) was higher than the low-income index (Table 10).

The study advanced the following explanation:

"Two features of the above comparison deserve particular attention because of their impact on the overall difference between the two consumer price indexes:

- low-income families spend considerably more on food than do members of the CPI target group, as a percentage of their total expenditures (and therefore food price movements have a greater impact on the low-income series than on the official CPI).

- within the shelter component of housing, tenancy is more important to low-income families than home ownership while the reverse is true for the official target group."(26)

While the size of the low-income family as defined for the study is larger than an older household would be and consequently could profit from some economies of scale in expenditures, food and housing components of the CPI affect both low-income and senior households differently from the rest of the population. Both low-income and senior households are disproportionately hit by food price increases, particularly for food to be consumed at home. The results of the low-income CPI study, therefore, are of interest to those who are concerned about the older population.

Table 9
Expenditure Weights for CPI Target Group and Low-Income Families

	Low-income families (1969 quantities, April 1973 prices)(a)	CPI target group (1967 quantities, April 1973 prices)(a)
	(Per cent)	
All-items	100.0	100.0
Food	31.6	26.3
Housing	33.7	32.5
Shelter	20.4	19.9
Tenancy	12.1	7.8
Home ownership	8.3	12.1
Household operation	13.3	12.6
Other major components	34.7	41.2
Clothing	9.4	10.2
Transportation	11.1	14.3
Health and personal care	4.1	4.3
Recreation, education, and reading	5.4	6.6
Tobacco and alcohol	4.7	5.8

a Comparison of the experimental consumer price index for low-income families (1969-weighted) with the official CPI (1967-weighted) may only be made for the period from April 1973 forward, since the 1967 weights were introduced as of that date. For the purpose of computing arithmetic averages of price indexes with an April 1973 time base, then, it is proper to use weights expressed in prices of April 1973.

Source Gordon Walford, "Experimental Study: A Consumer Price Index for Low-Income Families," Canadian Statistical Review, Cat. 11-003 (April 1978), p. x, Table 1.

Table 10
Comparison of CPIs for Official Target Group and Low-Income Families, June 1977

	Official target group(a)	Low-income families
	(April 1973 = 100)	
All items	145.2	143.8
Food	150.6	149.6
Housing	147.0	143.1
Shelter	142.1	135.9
Tenancy	123.6	123.6
Home ownership	154.1	154.0
Household operation	154.7	154.2
Other major components(b)	140.2(c)	139.3
All items except food	143.2	141.2
All items except housing	144.3(c)	144.2

a Rebased from official CPI series.
b Includes clothing; transportation; health and personal care; recreation, education and reading; and tobacco and alcohol.
c Official target group rebased and aggregated from official CPI.

Source Gordon Walford, "Experimental Study: A Consumer Price Index for Low-Income Families," Canadian Statistical Review, Cat. 11-003 (April 1978), P. xii.

A discussion of the relevance of the CPI to certain groups also figured in the Economic Council of Canada's Eleventh Annual Review. The Council was commenting in 1974, before the new weights were introduced, when it stated:

> "Demands for greater selectivity in the choice of index might appear to be appropriate if changes in the consumer price index were found to deviate substantially from the actual price-change experiences of different groups - whether classified according to their incomes for tax purposes or by demographic or social characteristics."(27)

The Council measured several specially weighted baskets for families of two or more of varying income levels and found that the impact of price increases did not correlate with income level in any meaningful way (Table 11).

In discussing the role of any index, the Council wrote:

> "...it is appropriate to consider whether the purpose of indexation schemes is to compensate individuals and groups for the loss of general purchasing power arising from inflation, or whether it is to protect, indefinitely, their particular initial real living

standards. If it is the latter, since relative price changes are always taking place - for example, because of different rates of productivity growth in different industries - a case would exist for tying particular categories of income to particular price indexes in order to preserve the real incomes of those involved, even in a situation of zero inflation. If, on the other hand, the purpose of indexation is to compensate for general inflation, then it appears most appropriate to employ a general index (such as the consumer price index) for this purpose. Clearly, many other schemes and programs are designed to preserve, modify, or improve the real living standards of particular income groups. It appears to us, however, that indexation is best directed towards the primary aim of compensating individuals for those losses of general purchasing power arising from inflation. Even a highly complex system of special indexes for particular groups would still give rise to anomalies and imperfections if the objective were to prevent each individual's initial real income from changing as a result of price variations. Apart from being administratively costly, special indexes might also introduce undesirable rigidities into our social and economic relationships."(28)

Table 11
Consumer Price Index, by Income Class, All Families or Two or More Persons, 1969 and 1974

	Index	
	January 1969	April 1974
	(1961 = 100)	
Under $3,000	121.8	162.7
$ 3,000-$3,999	121.7	161.2
4,000- 4,999	121.4	160.6
5,000- 5,999	121.5	160.0
6,000- 6,999	121.5	159.9
7,000- 7,999	124.4	163.8
8,000- 8,999	121.7	160.3
9,000- 9,999	122.2	161.4
10,000-10,999	122.2	160.6
11,000-11,999	122.0	160.5
12,000-14,999	122.0	160.3
15,000 or over	122.6	161.4
CPI	122.6	161.9

Source Economic Council of Canada, Eleventh Annual Review: Economic Targets and Social Indicators, (Ottawa: Information Canada, 1974), Table 7-4.

Another study that examined the pertinence of special indexes for various income, demographic, or geographic groups was that carried out by the Policy Research and Strategic Planning Division of the Department

of National Health and Welfare. The study, originally based on the 1969 consumer expenditure patterns was re-examined in the light of the changes in spending patterns registered in the 1974 survey. The conclusion remained the same:

> "...welfare and pension benefits would not be significantly different if they were escalated according to price indexes based on the expenditure patterns of the specific income/demographic groups instead of the overall Consumer Price Index."(29)

The study examined price movements over the 1966-77 period inclusive based on 1969 and 1974 weights for different income groups. In both cases two sets of measurements were taken: one based on the seven major categories in CPI (food; housing; clothing; transportation; medical and personal care; reading, recreation and education; tobacco and alcohol), and the second based on twenty-eight fine categories within these seven groups.

The results of the study bear out the findings of the two previous papers in the matter of food and housing costs and their impact on different income groups. In the former category, consumption of "restaurant foods" which increased faster than that of most other food items, had a disproportionate impact on the high-income group who spend more on this item (5.4 per cent of budget) than the middle-or low-income groups (3.4 and 3.0 per cent, respectively), based on 1969 weights. In the latter category, rent assumed a greater proportion of the low-income budget (12.9 per cent) than the middle-income (8.2 per cent) or the high-income (3.3 per cent) budget and consequently the low-income group has been protected, since rent rose more slowly than home ownership costs over the 1966-77 period. In the study based on 1969 weights, three income levels were used; in the study on 1974 weights, four. Table 12 shows the results of the study using the twenty-eight-category list of items for measurement.

The 1969 weights show that the low-income index exceeded the CPI in 1966, 1970, and 1972-77, but by a maximum of .7. Contrast this with the high-income index which was greater than CPI in every year and by as much as 4.1 in 1977. Based on the 1974 weights, only in 1973 did the low-income index exceed the CPI, and that by .3, whereas again the high-income group was higher every year, by as much as 8.2 in 1977. Rather than penalizing the lower income groups, the CPI presently in use has greater impact on the highest group in both parts of the study. This supports the view expressed previously that low-income groups, and therefore pensioners, are as well off under CPI as they would be under a more selective price index, when the aim of the indexing is to maintain their purchasing power.

The United Kingdom has a pensioners' index that differs from the General Index and relates to about 10 per cent of households measured. However, it has been observed that:

Table 12
New Consumer Price Index, by Income Group, Based on the 28-Category Disaggregation, Using 1969 and 1974 Expenditure Weights, 1966-67

	1969			1974				
	$3,000	$7,000-8,000	$15,000 and over	$4,000	$7,000-8,000	$10,000-12,000	$20,000 and over	CPI
				(1961 = 100)				
1966	111.5(a)	111.2	111.5(a)	111.3	110.9	111.1	111.8(a)	111.4
1967	115.3	115.2	116.0(a)	114.9	114.7	115.1	116.1(a)	115.4
1968	120.0	119.8	120.8(a)	119.8	119.3	119.7	120.8(a	120.1
1969	125.5	125.3	126.5(a)	125.4	124.7	125.2	126.7(a)	125.5
1970	129.8(a)	129.8(a)	131.4(a)	129.7	128.8	129.6	131.6(a)	129.7
1971	133.3	133.5(a)	135.9(a)	133.1	132.2	133.4	136.2(a)	133.4
1972	139.9(a)	139.7	142.1(a)	139.6	138.3	139.6	142.9(a)	139.8
1973	151.0(a)	149.9	152.2(a)	150.6(a)	148.4	149.9	153.8(a)	150.3
1974	167.3(a)	166.2	168.7(a)	166.5	164.0	166.1	170.9(a)	166.8
1975	185.5(a)	184.3	187.1(a)	184.4	181.7	184.2	189.9(a)	184.8
1976	198.8(a)	198.2	202.5(a)	197.3	194.7	198.2	205.8(a)	198.6
1977	215.1(a)	214.0	218.6(a)	213.6	210.2	214.1	222.7(a)	214.5

a Those values higher than CPI for the year, for the low-income group.

Source Mangal Gupta, The Impact of Price Changes on Different Income Groups, Health and Welfare Canada, Occasional Paper 4 (Ottawa, 1978), pp. 25-6.

"Although there are substantial differences between the weights of the 'pensioner' indices and those of the General Index this does not seem to have had a very great effect on the relative movements of the indices. The one person 'pensioner' index for example has increased only 1 1/2 per cent more than the General Index (excluding housing) in the period from January 1974."(30)

This practical example bears out the results of the Canadian studies.

CONCLUSION

We have seen that the Consumer Price Index is general in nature and has become progressively more so over time because of the widening of the target population and the range of items to be measured. By common consent, when applying standards of measurement to any particular segment of the population it is wiser to choose a standard which is representative of a wider rather than a more restrictive population. In this context the CPI is the most general measurement available and, as we have seen, the latest revision has extended its application, thereby increasing its relevance to the pensioner population. It is also a measurement that has wide recognition in Canadian society and, rightly or wrongly, is considered a yardstick for changes in the cost of living. Recognition and acceptability therefore argue for its use.

In the long run CPI could be considered the "least worst" measurement for purposes of increasing pensions and other welfare payments; the three studies we examined have not produced a more reliable measurement. On the contrary, they have tended to reinforce the validity of CPI as a basis for indexation. Since the stated purpose of pension escalation is the maintenance of purchasing power, CPI is the best tool we have available in Canada at the present on which to base the increases.

NOTES

(1) Throughout this paper reference is made to, and material is drawn from Statistics Canada, The Consumer Price Index: Revision Based on 1974 Expenditures: Concepts and Procedures, Cat. 62-546 (Ottawa, 1979).

(2) Statistics Act, 1918, c. 43, s. 1.

(3) Statistics Canada, The Consumer Price Index Revision, p. 8.

(4) Statistics Canada, Your Guide to the Consumer Price Index, p. 7.

(5) Statistics Canada, The Consumer Price Index Revision, p. 31.

(6) "Splicing technique - One of the procedures used for maintaining the continuity of item price index series in the case of substituted items (and/or replaced retail outlets). The basic assumption underlying the technique is that, at a given point in time, the relative difference in prices between the replaced and replacing items (and/or outlets) reflects the difference in respective qualities. In effect, the splicing technique is analagous to, and may be considered a particular case of, the linking procedures." Ibid., Glossary, p. 61.

(7) "Linking procedure - A procedure by which a 'new' series of indexes is connected to an 'old' series in a given link period, generally because of a change in baskets. Actually, indexes of the 'new' series with link period as time base are multiplied by the 'old' index for the link period." Ibid., p. 60.

(8) "The 1971 Census of Canada defines CMAs and CAs as main labour market areas of continuously built-up centres with populations of 100,000 and over and less than 100,000 respectively. CMAs and CAs therefore include urban care, urban fringe and rural fringe parts." Ibid., p. 25.

(9) The centres are: St. John's, Halifax, Charlottetown/Summerside, Saint John, Montreal, Quebec, Ottawa, Toronto, Thunder Bay, Winnipeg, Regina, Saskatoon, Edmonton, Calgary, and Vancouver.

(10) These centres are: Sydney, Moncton, Sherbrooke, Trois-Rivieres, Chicoutimi-Jonquiere, Hull, Kingston, Peterborough, Oshawa, Hamilton, Kitchener-Waterloo, St. Catharines-Welland-Niagara, London, Windsor, Sarnia, Sault Ste. Marie, Sudbury, and Victoria.

(11) This group comprises: Sydney Mines, Fredericton, Granby, Drummondville, Sorel, St. Jerome, Shawinigan, Cornwall, Belleville, Barrie, Timmins, North Bay, Brandon, Chilliwack, Nanaimo, Kelowna, Kamloops, and Prince George.

(12) These cities are: St. Hyacinthe, St. Jean, Valleyfield, Brantford, Chatham, Guelph, Moose Jaw, and Lethbridge.

(13) Statistics Canada, Urban Family Expenditure, 1974, Cat. 62-544, p. xv.

(14) A description of the formula for eliminating the trends and business cycle components of change can be found in Statistics Canada, Consumer Prices and Price Indexes, Cat. 62-010, quarterly.

(15) Those items exhibiting sufficient seasonality to warrant adjustment are listed in Consumer Prices and Price Indexes.

(16) Statistics Canada, The Consumer Price Index Revision, p. 56.

(17) The Income Tax Act, R.S.C. 1970, c. 148, as amended 1976-77, c. 4, S.48(1) and S.117.1; War Veterans' Allowance Act, R.S.C. 1970, c. W-5; The Old Age Security Act, R.S.C. 1970, c. 0-6 as amended 1976-77, c. 9; Canada Pension Plan, R.S.C. 1970, as amended 1974-75-76; Family Allowances Act 1973, c. 44; and pensions such as those for members of Parliament, public servants and members of the armed forces.

(18) For example the Teachers' Superannuation Act, R.S.O. 1970.

(19) Benefits under the Unemployment Insurance Act 1971, R.S.C. 1970-71-72 c. 48 are escalated periodically, linked to rises in the Consumer Price Index.

(20) Statistics Canada, Urban Family Food Expenditure, 1974, Cat. 62-542, pp. 14-15, Table 7.

(21) Statistics Canada, The Consumer Price Index Revision, p. 57.

(22) Ibid.

(23) Statistics Canada, Consumer Prices and Price Indexes, Cat. 62-010.

(24) Statistics Canada, 1971 Census of Canada, Cat. 93-739, Vol. 2, Part 4, Tables 35 and 37.

(25) Statistics Canada, Income Distributions by Size in Canada, 1976, p. 92.

(26) Gordon Walford, "Experimental Study: A Consumer Price Index for Low-Income Families," Canadian Statistical Review (April 1978), p. x. Low-income families for this study are defined as urban "families of two adults with one or more children and incomes in 1969 of less than $6,000."

(27) Economic Council of Canada, Eleventh Annual Review; Economic Targets and Social Indicators (Ottawa, Information Canada, 1974), p. 171.

(28) Ibid., p. 174.

(29) Mangal Gupta, The Impact of Price Changes on Different Income Groups, Health and Welfare Canada, Occasional Paper 4 (Ottawa, 1978), p. 21.

(30) Letter to the Royal Commission from the office of the Parliamentary Under Secretary of State, Department of Employment, Government of the United Kingdom, June 13, 1978, p. 2.

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Aging and Retirement: A Survey of the Sociological Literature

Daniel Kubat

June, 1978

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Aging and Retirement: A Survey of the Sociological Literature

Any consideration of pension issues must be set within the broader context of retirement. Retirement is a social phenomenon and not simply a function of aging. This paper surveys the literature on retirement, concentrating upon understanding aging and the social implications of aging. It deals with preferences for early or late retirement, evaluation of retirement, preparation for it, and adjustments to it. Most of the studies mentioned deal with North American conditions and are used here mainly as illustrations of the breadth and diversity of opinions in the literature rather than as a selection aimed at proving a specific theory. While American studies are more plentiful than Canadian studies, their findings are valuable for both countries.

THEORIES OF AGING

Although the literature on aging is vast and has become much more extensive in the last twenty years, two main theoretical approaches provide an essential understanding of the social aspects of the process: the "disengagement theory," developed initially by Elaine Cumming,(1) and the "activity theory," advanced by George L. Maddox and Ida H. Simpson.(2) According to the disengagement theory, individual disengagement during the aging process involves a withdrawal from numerous commitments to the fulfilment of only a limited number of social roles. Disengagement proceeds too at the social level, as society withdraws support from these individuals, ceases to expect a commitment from them, and forces retirement upon them. Cumming has summarized the three elements of the process as follows:

> "1. The life space of an individual decreases with age, in that he interacts with a narrower variety of role partners and spends a smaller proportion of his time in interaction.
> 2. The individual anticipates this change and participates in the process.
> 3. The individual's preference for interpersonal rewards becomes more individualized and less role connected as he gets older, and thus his style of interaction changes."(3)

For example, persons aged 75 or over report fewer interactions with others than those aged 60 to 64. Critics of this theory argue that it is bound to hold if age groups compared are widely separated. One implication of the theory is that financial obligations and needs will decline as disengagement progresses.

In contrast, the activity theory holds that continued productivity and social interaction are essential to human satisfaction and well-being. Proponents of this school of thought argue that existing lifestyles continue into retirement, that there is no sharp discontinuity in

the aging process, and (when put in its extreme form) see the individual "dying with his boots on." Those who hold this theory, however, take into account the necessary reduction of activity that results from decreased energy as a result of aging.(4)

In general the distinctions between these two theories are largely a matter of emphasis and to a lesser extent a result of different research methods. It has been pointed out that the selection and size of the sample being examined influence the outcome of each study.

Most of the findings in this field bear only indirectly on pension issues. But they have raised some pertinent questions. For example: what is the relationship between the size of pension provided and the willingness to retire early? Is the level of income of retired persons a factor affecting their willingness to participate or withdraw from work-related activities? To what extent does the social status of the aged govern attitudes towards continuing work or retiring? These external or social, aspects of aging have a greater influence than personal desires on withdrawal or disengagement. Forced retirement or the loss of a spouse are events that may also alter the outlook and activity of the aged drastically. An increase of morbidity after such traumas is well documented in the literature of social gerontology. Events external to an individual, such as inadequate old age pensions, or stress associated with the loss of friends or relatives appear to encourage disengagement. These events lead, in the words of one study, to a "general shrinking of the social world" or the phenomenon known as disengagement:

> "There appears to be a substantial evidence for our hypothesis that disengagement among the aged can be predicted to occur as a concomitant of physical or social stresses which profoundly affect the manner in which the life pattern of the person is redirected. Because they have ignored the apparently definitive effect of such factors on disengagement, Cumming and Henry [the proponents of the disengagement theory] were led to the conclusion that advancing age was a sufficient explanation of the facts obtained in their study. It is not age which produces disengagement in our investigation but the impact of physical or social stress which may be expected to increase with age. It is tempting to hypothesize that as one enters into later decades, disengagement is bound to grow, and indeed, it does. The real difficulty lies in the fact that it is the correlates of old age, i.e., failing health, loss of peers, death of relatives, and the general shrinking of the social world due to factors related to aging, that appear to produce the social withdrawal known as disengagement."(5)

While external factors have a great bearing upon the willingness to retire, or disengage oneself, the relationship between each individual decision and these external constraints is by no means simple or direct. People of higher social status who hold attractive and challenging jobs tend to continue to work even though they could retire comfortably.

Although they can afford to retire they choose to remain active.(6) At the other extreme, those in unattractive, lower status positions generally retire at the earliest opportunity, even when given the choice of staying on the job.(7)

STUDIES OF RETIREMENT

Man, seen from the perspective of the social sciences, is a creature of habit, his behaviour controlled by symbols. Inasmuch as these symbols, such as social conventions, customs, norms, and values, change or vary from group to group, the size and composition of various groups will determine or influence the meaning of various symbols. One of the symbols affecting retirement is whether work is defined as desirable or necessary. The most influential source of attitudes towards work and retirement is the collective experience a cohort of persons acquire during their lifetime. Belonging to and participating in the experiences of a particular generation shapes one's outlook on life. For example, the history of post-war baby boom generation is crucial to any speculation about its behaviour upon entering retirement. The size of this group and the permissiveness in their training at home and at school encouraged the cohort members to form primary relations with their age peers. Accordingly these relationships proved more influential in shaping attitudes than adult authority, a fact that becomes clearer when some of the notions of this group are compared with those of the preceding generation.

There is evidence for instance, that present-day youth do not share the previous generation's attitudes towards work.(8) This changing perception of work will, in turn, have far-reaching implications in shaping other social attitudes, if this cohort retains its outlook on the world and on work for the remainder of its life. Labour force participation will be affected by the willingness of workers either to drop out whenever other support funds become available or to alternate periods of work with time spent drawing social assistance, perhaps in combination with other household members. Such lifestyles have become possible with the availability of social services and transfer payments in advanced industrial societies.

Attitudes Towards Retirement

Most studies of retirement conducted by sociologists deal with the way people cope with it, how they prepare for it, and what they expect from it. The subjects of these studies, usually survey respondents, are mostly middle-aged and nearing retirement or already retired; in other words, they share common experiences that influence their attitudes towards retirement, pensions, and work. In very general terms, it might be said of this cohort that work was a normative expectation and also that work is for males and housework for females; and that retirement represents an abrupt discontinuity with lowered morale unless some valid

excuses are available such as ill health or forced retirement. Retirement represents a discontinuity of the self-definition particularly in males.

The consequences of this break with experience have been much studied. In a survey of 182 non-institutionalized subjects 60 years and over completed in 1963, Maddox showed that contact with the environment decreased with age and that this was accompanied by a corresponding lowering of the subjects' morale.(9) In contrast, a 1970 study of residents of a retirement community found little change in activity levels before and after retirement. Indeed, this group showed a preference for leisure rather than work-related activities. The subjects were well above the poverty line, had migrated to Arizona from various parts of the United States, and were part of the newly emergent, personal expressive, consumption-oriented middle class. This latter group may well represent the forerunners of future retirees who will be better educated, healthier, with more active, wider ranging interests. Recent research has suggested that middle-aged urban workers who can afford to migrate to isolated resort regions are likely to adjust well to their leisure environment.(10)

Work and careers may no longer be appropriate primary goals of some segments of the population, researchers have concluded, even among those who were conditioned to believe they were. The question of whether a worker's attitude towards his job influences his outlook towards retirement follows logically from these findings. In answer, a recent study of 244 Canadian subjects, both male and female, between 55 and 65, found that commitment to an occupation does not preclude a positive anticipation of retirement.(11) However, men with positive attitudes towards their occupations are less likely to want to retire than men holding negative views. By comparison, women holding jobs with high rewards, challenge, and variety as well as a positive attitude to employment indicated they are less likely to want to defer retirement. At the same time, older female industrial workers in England, according to a 1973 survey, are less enthusiastic about approaching retirement than their male counterparts.(12) Two studies conducted in the United States have confirmed that just prior to retirement women are less favourable towards it than men.(13) In addition, Schonfield and Hooper studied a small sample of women 65 years and older, some of whom were resident in nursing homes while some were recipients of the meals-on-wheels services, and others (a control group) lived in the community. Those in the dependent status had lower scores on successful aging than those living in the community.(14) Of course, the reason for the dependent status of some respondents was their inability to take care of themselves, and they were at the mercy of the care institutions, with all the attendant problems of dependency.

While ill health often accompanies retirement, and especially early retirement, a decline in health and retirement are not causally related according to recent studies.(15) A survey of 1,589 American males 65

years of age or older and representative of the non-institutionalized population found that the lower morale of retired men may be explained by poorer health, lower income, and more advanced age, but not simply by their retirement.(16) Morale during retirement seems to be a function of the expectations of retirement. Sometimes the recently retired use the "sick role" as a means of resuming social contacts and regaining social acceptability on the principle that illness is an accepted role in society whereas retirement often lacks a clear definition of expected behaviour.(17)

Two conflicting attitudes - a desire for retirement in general and regret that it is occurring to themselves - lead to certain inconsistencies in the findings. Respondents look forward to the leisure but not the old age that accompanies it. On the whole, financial considerations have the most profound impact upon attitudes towards retirement. The closer the prospect of retirement, moreover, the less desirable it seems. Social status and sex also colour one's view of retirement. But in general, people with rewarding employment tend to resist retirement; persons with middle occupational status tend to look forward to it; and people in lower occupational strata tend to favour it; though they fear the financial insecurity it brings.

LEISURE ACTIVITIES

The literature contains divergent views on the impact of retirement on participation in leisure activities, primarily over the question of who joins in and to what extent. Older cohorts, particularly from lower socio-economic classes, tended to underutilize the recreation services provided by various welfare and community groups. The explanation for this lies not simply in financial embarrassment, but also in deeply rooted attitudes towards leisure itself acquired during a lifetime of hard, routine work. Brought up in a culture that placed less emphasis upon formal education, where fifty hours of work a week were the norm and vacations were rare, the men could afford neither the time nor the money to develop extensive leisure activities during their working lives. Women among this cohort had low levels of overall schooling and were conditioned to housework and scrimping to provide necessities. Thus obligatory (or instrumental) activities, being both well-practised and more consistent with cultural values prevailing through much of their lives, may be preferred ways of spending time for many older people.(18) During their retirement, rather than make use of available recreation facilities, men tend to putter around the house and women to continue with their household tasks. However, new and growing evidence indicates that the relatively younger cohorts approaching and entering retirement regard it as an earned privilege, an attitude that frees them to pursue leisure activities.

Willingness to retire or advanced age does not seem to inhibit other activities, particularly voting. A 1976 study of Canadian politi-

cal behaviour found that those over 65 did not show any decline in voting participation or any slackening of interest in politics.(19) This and other similar studies suggest that "grey power" movements will probably proliferate as the older population grows as a proportion of the total population.

CANADIAN STUDIES ON RETIREMENT

Two major Canadian research projects dealing with retirement - one just completed and the second nearing completion - deserve special notice. In 1977 the Department of Health and Welfare reported on the attitudes towards and experience of a nationwide sample of retired or soon to be retired.(20) The Ontario Ministry of Community and Social Services launched a survey of a sample of Ontario workers in 1959, a unique longitudinal study of the aging process and its effect on health and social adjustment that is just now being completed. The study also focuses on various aspects of aging and perceptions of retirement.(21)

In February 1975 the Department of Health and Welfare surveyed 3,011 respondents aged 55 or older during the ongoing Labour Force Survey and received 2,418 usable responses representative of approximately 3.6 million civilian workers in ten provinces. Active men strongly favoured retirement before 65 (71 per cent) or at least at 65 (21 per cent), whereas only a minority (9 per cent) desired a retirement date beyond their sixty-fifth birthday. Among women still active in the labour force 77 per cent preferred retirement at or before age 60. A concern for personal health, particularly among men, determined attitudes towards the timing of retirement. Adequate retirement income was also cited as contributing to a desire for early retirement.

Attitudes towards both early and compulsory retirement are in the process of changing towards their more explicit acceptance.(22) The data in Table 1, taken from the Health and Welfare study, indicate that the preference for earlier retirement is now quite pronounced. Furthermore, over half the respondents supported the idea of compulsory retirement, although a strong minority of 30 per cent opposed it. The active respondents favoured compulsory retirement slightly more than those already retired. Assuming that pension benefits remained the same, 31 per cent of the male and 27 per cent of the female retirees would have retired sooner compared with 55 and 57 per cent, respectively, of those still in the labour force. Once again, income and health proved to be the key variables governing the timing and willingness to retire. Only 25 per cent of both active and retired respondents thought their retirement income adequate. Men appear to be more concerned with financial and health problems than women. Men gave health as the most frequent reason for early retirement, especially those who had worked in manual or lower skilled occupations, categories that are somewhat larger in these older cohorts than in the population as a whole.

Table 1
Proportion of Respondents Favouring Various Compulsory Retirement Ages

Age of retirement	Men		Women	
	Active	Retired	Active	Retired
	(Per cent)		(Per cent)	
50 or 60	45	59	54	62
65	29	23	27	23
70	12	8	10	5
Other	15	9	11	11
Total(a)	100	100	100	100

a Columns may not add to 100 because of rounding
Source Health and Welfare Canada, Retirement in Canada: Summary Report, Ottawa, 1977, p. 14.

Those approaching retirement or already retired seem least concerned about housing. About 70 per cent of the men and 63 per cent of the women surveyed owned their own homes; only 8 per cent of both sexes lived in rooming houses or senior citizen accommodation, although Labour Force Survey sampling techniques may under-represent the latter. The retired population engaged in about the same kinds of leisure activities - visiting friends, exercising, or working at hobbies - as the active population, but in later years lighter activities replaced energetic ones.

In summary, the Department of Health and Welfare study concluded that health and income considerations, while not the only concerns, were the major determinants of retirement. Moreover, health and income also seem to be positively related - the higher the income the better the health of the worker and vice versa. These findings are necessarily based upon the occupational patterns in the past. Since the occupational structure has been shifting away from manual, unskilled jobs towards higher-paid skilled and semi-skilled jobs requiring considerable formal education, we might expect a healthier, more financially secure retired population in the years ahead.

Although Ontario's long-term study of aging begun in 1959 terminated only recently and the final results are not yet available, it has produced a number of quite striking preliminary results. Initially the study followed a cohort of 2,000 45-year-old males representative of the spectrum of occupations in the province, interviewing them each year to observe changes in lifestyle, health, income, employment and leisure experiences, and attitudes towards the adequacy of public services for middle-aged and older citizens. During the final year 1,100 of the original group were still participating in the survey, the others having dropped out by virtue of death, out migration, or loss of interest.(23) Investigators first measured the demographic and occupational characteristics of the group and then turned to an examination of its interest in leisure and retirement. Preliminary findings confirm earlier reports

that with increasing incomes and decreasing parental responsibilities the respondents became more socially active and devoted more time to leisure.(24)

By the time the men surveyed reached their mid-fifties, their activity patterns seemed to stabilize. However, an increasing proportion of those with low incomes reported decreased activity. White collar workers stayed in better health, remained more interested in social activities, and rated their life satisfaction higher than blue collar workers, a result that again echoed conclusions drawn from studies done elsewhere.

The Ontario study also uncovered the polarized attitudes towards retirement noted by other researchers. "Those with higher incomes and more education look forward to the end of work with interest and hope; those with little education and lower incomes think the worker should be permitted to continue in employment as long as he can work."(25) A fear of isolation and the loss of a daily routine provoke the greatest apprehension. Some of the anxieties upon approaching retirement stem from a belief that retirement income will be insufficient to sustain established social or leisure activities for which disposable income is necessary. Plainly, inflation has the retired and soon-to-be retired worried. The questionnaire administered during the twentieth and last year of the survey probes attitudes towards and experiences of retirement in detail, but the results will not be known for some time.

AGING, RETIREMENT, AND PENSIONS

While the literature on retirement and pensions is not as extensive as that on aging, it too has mushroomed during the last decade or so. The relationship between aging and retirement is discussed essentially in terms of two independent processes in society: aging and the division of labour. The biological process of aging and the progressive inability of older people to participate effectively in the labour force creates pressure to find ways that they may retire after a certain age. This time varies in different societies and circumstances but is usually between the ages of 60 and 65.(26) The division of labour, characteristic of advanced societies like Canada, means that work and production are rationally organized and that traditionally personnel progress upwardly through the ranks. In order that younger people may advance, older people must retire either at a fixed age or after a fixed number of years of employment.

Historically, biology and the division of labour were "naturally" intertwined, and a person might work as long as he or she was able. However, as industrialization proceeded and labour became infinitely divided in industrial society, employment concerns assumed overriding importance. Retirement then became increasingly significant, despite the biological delay in aging; it began to be thought of as the threshold

between working life and aging. Efforts were made to help workers cope with retirement, and both management and labour unions tried to find ways to retire the old earlier and to increase the number of years spent in retirement.

Biological aging has, of course, been delayed as healthier people live longer. The discrepancy between biological aging and the age of retirement has begun to be noticed and work is beginning to be seen as a temporary stage in life.(27) Thus the emphasis shifted from thinking of retirement as a reward at the end of working life to considering it an opportunity that may be seized at the earliest age transfer payments may be claimed. Retirement as a social institution implies "a right to an income without holding a job."(28) Because of past performance, the retired person receives a pre-specified sum of money in lieu of salary.

CONCLUSION

In the literature, differing emphases on the interpretation of aging has produced two seemingly different theories about approaches to aging: one maintains that individuals may enter into a process of disengagement and that retirement may mark a major threshold; the other contends that an aging person may remain active but substitute new activities for old ones. No doubt physical and mental health are crucial variables that may explain the differences in findings in the various studies considered. The overall health level of the population is projected to improve, allowing those well past current retirement age to remain physically and socially active. Indeed, the increasing number of aged who are healthy and articulate is expected to have a significant impact on future politics.

If one were to look for a consensus in the literature on aging, the notion of continuity in lifestyles and interests would, perhaps, be the most central one. Given the anticipated changes in the occupational structure of today's labour force, active lifestyles are likely to prevail well before the end of this century. But expressive lifestyles require more disposable income than is available to a majority of today's aged. They may still putter around the house, or fix things, or just do nothing - all activities that cost little but are congruent with their past lives. This behaviour pattern is, however, bound to change as population cohorts who have experienced the affluence of the post Second World War era reach retirement age.

The literature on retirement seems to agree that preferences run towards early retirement, although they are tempered by concern about satisfactory income levels which is reinforced in the face of persistent inflation. However, those retiring now, perhaps because they may have grown up in a cultural milieu favouring a traditional work ethic, seem to accept early retirement only in the case of ill health. Thus, those who have retired early have done so for health reasons, even when they

were not in a financial position to retire comfortably. Women are more likely to retire early than men, even though a few studies indicate that their preferences are the contrary. In all probability the vagaries of the labour market force women to retire earlier than men.

All in all, retirement has become a social institution that is taken for granted even though its financing may be little understood. Retirement and associated pensions have become a matter of right and entitlement. The current labour force cohorts entering or about to enter retirement have had arduous working careers during a time when work was considered not only necesary but also morally imperative; they believe their pensions are a just reward for their service. The new cohorts just starting their working careers are reportedly less sanguine about the inherent virtue of work, but their perceptions of pensions as deferred wages and as a general government obligation may already be deeply ingrained. When these groups reach retirement age some thirty or so years hence, their political weight will be considerable and their anticipation of satisfactory pensions perhaps a divisive issue. Thus all the indicators point towards increased pressure for income maintenance into retirement to support a continuity of lifestyles. How that income should be generated and how the pension should be funded remain questions yet to be answered.

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The Demography of Older Canadians

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July 19, 1978

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CHARACTERISTICS OF OLDER CANADIANS

The Commission has before it a number of documents dealing with the demographic composition of Canadians, particularly those of retirement age. This report will summarize the few demographic facts relevant to the argument for a flexible retirement age. The proportion of the older population in Canada is increasing even though, comparatively speaking, Canada is very much "behind" some countries in Europe, for instance the United Kingdom, Sweden, and the Netherlands, as regards the proportion of their population past the sixty-fifth birthday.

Distribution by Age

The proportion of persons over 65 years of age is not only increasing, but will continue to increase. The distribution within the older groups is such that those well past their three score and ten represent a significant proportion of the aged in this country. The relative position of older women within the older group has improved considerably during the last twenty-five years and there is a fair chance that it will improve even further (Table 1). In 1976 all women 80 years and over represented over 21 per cent of women in the older age groups compared to slightly over 17 per cent at the time of the 1961 census. The position of males improved over a longer span, from over 12 per cent in 1951 to close to 18 per cent in 1976, even though older men registered a relative decline in the census years preceding 1976. This anomaly is attributed primarily to males immigrating to Canada after the turn of this century who have started to die out, thus "normalizing" the age composition in favour of women.

Distribution by Marital Status

Women are favoured in survivorship, that is, they live longer than men. This fact is reflected in the marriage rates of the older population (Table 2). The number of married males 65 years of age or over has increased from 68.5 per cent to 74 per cent in only 15 years whereas the proportion of women who remain married has slightly decreased. This indicates, again, the "normalization" of the Canadian age and sex structure. Marriedness contributes to survivorship of males in particular. One may expect that the survivorship of very old males will improve, since a higher proportion of them are married now than previously.

Distribution by Residential Mobility

Another factor contributing to survivorship is stability of one's environment. Data suggest that mortality and morbidity increase soon after relocation. Unfortunately, most very old persons are eventually relocated into institutions offering medical and nursing care; but until that time, they live in their familiar surroundings. Thus far, about three-fourths of all aged in Canada owned their housing (Canadian Council on Social Development, 1977), especially if they lived as couples.

Table 1
Older Population in Canada, by Proportion in Older Age Groups, by Sex, For Census years Since 1951

			Proportion in age groups					
		All 65+	65-69	70-74	75-79	80-84	85-89	90+
		(Number)	(Per cent)					
1976	M	875,395	38.7	27.6	17.2	9.7	4.8	2.1
	F	1,126,935	33.9	25.9	18.8	12.0	6.3	3.0
1971	M	781,865	37.9	26.3	17.9	11.0	5.2	1.8
	F	962,540	33.7	26.2	19.3	12.3	6.2	2.4
1966	M	716,536	35.6	27.8	19.4	11.3	4.6	1.4
	F	822,992	33.6	27.8	19.6	11.7	5.3	2.0
1961	M	674,117	35.6	29.1	19.9	10.2	4.0	1.2
	F	717,036	34.5	28.7	19.5	10.9	4.7	1.7
1956	M	622,210	38.2	30.1	18.3	8.9	3.5	1.0
	F	621,728	36.4	29.5	18.3	9.9	4.3	1.6
1951	M	551,303	41.4	29.1	17.1	8.3	3.2	.9
	F	534,970	38.4	28.9	17.6	9.5	4.1	1.4

Sources Statistics Canada, Census of Canada, 1971, Cat. 92-715 (Bulletin 1.2-3).
Statistics Canada, Census of Canada, 1976, Cat. 92-825 (Bulletin 2.6).

Table 2
Older Population in Canada by Proportion Married in Each Age Group, by Sex, for Census Years Since 1961

	1976		1971		1961	
	M	F	M	F	M	F
	(Per cent)					
65 and over(a)	74.0	39.0	71.8	39.2	68.5	41.2
65-69	82.3	56.0	80.4	55.2	77.5	53.4
70-74	77.3	42.3	77.7	47.0	72.0	44.2
75-79	70.1	30.0	68.5	31.0	63.7	32.7
80-84	60.4	18.8	52.0	20.1	52.4	21.5
85-89	47.8	10.2	47.8	12.8	40.2	16.1
90 and over	31.9	6.3	34.3	8.2	28.4	7.3

a For numbers see Table 1.

Sources Statistics Canada, Census of Canada, 1976, Cat. 92-825 (Bulletin 2.6).
Statistics Canada, Census of Canada, 1971, Cat. 92-730 (Bulletin 1.4-2).
Statistics Canada, Census of Canada, 1961, Cat. 91-552 (Bulletin 1.3-1).

Recent data on migration indicates a slight decrease in residential stability of older persons. Males are more stable than females, a situation reflecting some relocation on the part of widowed females. In 1976, 71 per cent of males and about 67 per cent of females were enumerated in the same dwellings they had occupied five years before. Both figures represent a slight decrease compared to the 1961 census (Table 3). However, inasmuch as residential mobility is also a sign of better health and a willingness to experiment, one may assume that the decrease in residential continuity, slight as it was, represented retirement moves, quite often far away, or at least to a different municipality.

Table 3
Older Population in Canada, by Proportion Changing Residence(a), by Sex, for Census Years Since 1961

	Population	Movers					
	65+	Non-movers	Same municipality	Same province	Different province	From abroad	Not stated
	(Number)	(Per cent)					
1976 M	875,395	71.1	15.8	9.1	1.6	1.2	1.3
F	1,126,935	67.5	19.3	8.6	1.7	1.4	1.6
1971 M	781,865	70.1	17.7	8.4	1.7	1.2	1.1
F	962,542	67.1	20.0	8.3	1.7	1.6	1.2
1961 M	622,791(b)	73.9	16.6	7.4	1.4	.6	.1
F	658,220(b)	71.4	18.5	7.5	1.5	1.0	.1

a One or more moves within the five years preceding the census date.
b Based on a 20 per cent sample of the census population. The actual number of persons aged 65+ in 1961 was 679,117 for males and 717,036 for females.

Sources Statistics Canada, Census of Canada, 1961, Cat. 98-509 (Bulletin 4.1-9).
Statistics Canada, Census of Canada, 1971, Cat. 92-119 (Bulletin 1.2-7).
Statistics Canada, Census of Canada, 1976.

Distribution by Place of Birth

Recent data on older Canadians by their place of birth indicate that a substantial proportion of the population was foreign born (Table 4). Males who entered Canada around the turn of this century and later are now reaching an age at which they are dying off. Unfortunately, the 1976 census did not ask the place of birth. The decrease in the proportion of foreign born registered at the time of the 1971 census "normalizes" the population in the sense that it removes the surplus of males characterizing the older Canadian population. The implications of the change in the proportion of foreign born are as follows: even though

immigrants in the past were a hardy stock as it were, survivorship of the native born population was always slightly higher. This may have been partly a function of occupational selection for immigration only, of course, for the historical immigration pattern. Very recent immigrants are screened as to their health and education which should assure them at least as much longevity as the native born. Admittedly, longevity is very much a function of genetic endowment, comparative data on which are lacking. It is likely that the proportion of foreign born among the aged, let us say by the year 2020, will be substantially lower than it is today and therefore its effect on the survivorship of the whole population is not too important.

Table 4
Older Population in Canada, by Proportion Born in Canada, by Sex and Age Groups, for Census Years Since 1961(a)

		Proportion in age groups						
		65+	65-69	70-74	75-79	80-84	85-89	90+
		(Per cent)						
1971	M	62.0	63.7	61.6	61.3	59.6	58.5	63.3
	F	64.7	66.4	63.8	63.7	63.5	63.9	67.7
1961	M	59.1	61.0	57.4	56.5	59.9	62.9	64.8
	F	63.2	63.7	62.1	61.8	64.5	67.4	69.8

a The question was not asked during the 1976 census.

Sources Statistics Canada, Census of Canada, 1961, Cat. 92-555 (Bulletin 1.3-4).
Statistics Canada, Census of Canada, 1971, Cat. 92-737 (Bulletin 1.4-9).

Prognosis

Not only will the proportion of persons 65 years of age and older increase as compared to the total population but, and primarily, a considerable redistribution will occur among the aged; a greater number of them will be living to higher ages. Concern has been expressed with the proportion of the aged over 65 strongly affecting dependency ratios. However, it is more crucial to focus one's attention on the distribution of the population within the older age groups, as this distribution will influence the demand on pension funds.

One measure of the length of pension payment dependency is the number of years a person of a given age is expected to live. Such values are obtained from the life tables. For instance, in 1951, males in Canada could expect to live an additional 13 years and females an additional 15 years after reaching their 65th birthday. In 1966, the respective numbers increased to close to 14 and 17 years. In 1971, the last year for which such data are available, the respective values re-

mained the same for males but increased by about half a year for women. A life expectancy of an additional ten years was attributed to males near their 71st birthday and to females near their 76th birthday. "Normal" populations in countries industrially similar to Canada exhibit a narrower range between male and female survivorship. Females would still have a life expectancy of ten years (Ryder, 1975) shortly after their 74th birthday and men shortly after their 72nd birthday. The most recent life tables for the United States, for 1975, the white population indicate that males have a life expectancy of ten years shortly before their 72nd birthday and females shortly after their 76th birthday.

Another way to measure the length of pension payments dependency is to calculate the proportion of any given birth cohort still surviving today. Due to heavy immigration in the past, however, such a measure for Canada is considerably distorted. Rough calculations for 1976 indicate the following results:

Table 5
Proportion Surviving of Selected Age Groups

Age groups in 1976	Age group 0-4 at the time of birth of today's age group	Proportion surviving
	(Number)	(Per cent)
65-69	720,815	81
70-74	533,725	69
75-79	362,705	56
80-84	220,568	38
85-89	112,375	18

Source Statistics Canada, Census of Canada, 1976, Cat. 92-825 (Bulletin 2.6); Urquhart and Buckley, 1965.

Calculating similar values for the preceding census becomes less rewarding, since the interplay of migration and mortality disallows any statistically valid conclusions. The age group 65-69 in 1971 had a cohort survivor proportion of 81 per cent; for the year 1961, it was 78 per cent; and for the year 1951, it was 72 per cent. The increasing survivorship represents, in the first place, an improvement of mortality; only secondarily does it reflect added population through immigration. During the years of the heaviest immigration to Canada, just before World War I, emigration was almost as heavy as immigration. Nonetheless, the populations at advanced ages are larger by far than anticipated when the various pension plans were coming into existence. There is also some indication that even without a major medical breakthrough, the inching up of survivorship will cause the upcoming age cohorts to remain much unreduced until very high ages.

MORTALITY OF OLDER CANADIANS

Official population projections from Statistics Canada or from the Department of Insurance which supplies population projections for the CPP, are conservative. There are two reasons for this: the projections are bounded by historical trends; and governmental agencies are not at liberty to speculate on the future. Therefore, they assume constant values past the normally projected trends of fifteen years. In the past, projections dealing with demographic phenomena have been invariably wrong in the long run and often in the short run as well.

Mortality projections are subject to the least fluctuations and, correspondingly, to the least number of errors. The projections by Statistics Canada (1975) assume only slight improvement in Canadian mortality for the years ahead. The population projections now being prepared for the Economic Council of Canada by the McMaster Group use three possible changes in Canadian mortality, producing high, medium, and low projections based on the trends for mortality decline between 1951 and 1971.

The "low" projections produce life expectancies at birth for males in 1976 of 70.1 and in 2011 of 73.0. For females the corresponding values for those years are 77.9 and 85.3. It should be noted that the "low" projections refer to the corresponding low fertility. High fertility carries with it high infant mortality and thus depresses life expectancy values at birth. Life table values for the U.S. white population for 1975 indicate male and female life expectancies at birth at 69.4 and 77.2 respectively, approximating the projected values by the McMaster Group for Canada in 1976 and for their "medium" projections. If the projections come true, then the population in Canada will show high survivorship rates, going well above ten years after the pensionable age of 65.

Canadian mortality has been dropping substantially for females in the older age groups. For instance, the mortality rate for women aged 80-84 declined 33.4 per cent between 1950 and 1976 whereas male mortality in the same age group declined only by 10.6 per cent, that is less than one-half per cent annually (Table 6). Comparing the actual mortality rates in 1976 with those projected by Statistics Canada from the 1965-1969 data base (Tables 7 and 8) for deaths by all causes, the decline in mortality realized in 1976 seems to have proceeded faster than the decline projected by Statistics Canada to the years 1985-1989 from trends occurring in the periods 1955-1959 and 1965-1969. For instance, males 65 to 69 were projected to suffer a slightly higher mortality in the late 1980s, but their actual mortality experience in 1976 represented a drop of about 9 per cent as compared to the base data for 1965-1969. Other older age groups show a similarly accelerated drop in mortality. This applies also to the mortality of older women. By 1976, those between ages 75 and 79 already experienced 61 per cent of the 38 per cent drop projected for the years 1985-89. Caution is necessary in

interpreting these data, as the 1976 mortality data are for one year only while the projections are based on four-year averages.

Table 6
Mortality Rates of Older Canadians, by Age Groups and Sex, Since 1950

		Age groups (rate per 1,000 population)					
		All ages	65-69	70-74	75-79	80-84	85+
				(Per cent)			
1950	Male	10.1	36.4	54.9	84.7	132.2	222.9
1960		9.0	35.0	54.3	83.2	128.5	217.5
1970		8.5	36.3	53.3	78.2	119.7	197.0
1971		8.5	34.7	51.9	79.0	118.8	198.6
1972		8.7	35.7	53.4	78.9	122.7	213.9
1973		8.6	34.7	52.0	79.6	121.9	218.5
1974		8.6	34.9	53.1	78.3	121.5	217.0
1975		8.5	34.4	51.4	77.2	120.1	221.7
1976		8.4	33.3	51.4	77.3	118.2	195.8
1950	Female	7.9	26.4	42.8	69.9	115.3	209.1
1960		6.6	21.3	35.1	60.8	104.1	199.6
1970		6.1	18.3	29.4	48.7	83.9	163.7
1971		6.1	17.3	28.3	48.1	82.4	163.3
1972		6.2	17.7	29.1	48.3	80.8	158.6
1973		6.2	16.9	28.0	47.8	80.8	157.0
1974		6.3	17.3	28.1	46.7	81.3	156.3
1975(a)		6.2	17.3	27.8	45.5	77.3	149.7
1976(a)		6.1	16.4	26.3	44.7	76.8	154.7

a Estimated.

Sources Statistics Canada, Vital Statistics 1975, Vol. III: Deaths, Cat. 84-206; Causes of Death, 1976, Cat. 84-203.

Trends in Mortality Into the 1980s

Looking at the changes in Canadian mortality for the older population and by major causes of death, mamely diseases of the circulatory system and of the respiratory system, and deaths due to neoplasms, the trends in mortality appear to be unclear (Table 7). Most of the projections for the years 1975-1979 seem to be lower than the rates of mortality recorded in 1976 for diseases of the circulatory system. This seems to apply to both sexes. However, the differences may be explained by the fact that quite different classification systems were adopted for the 1976 data than for the 1965-1969 data. The latter were classified by the Seventh Revision of the International Classification of Diseases, whereas the present Canadian mortality data are recorded since 1970 according to the Eighth Revision of the International Classification of Diseases. The same concern applies to the data shown for the diseases of the respiratory system and for neoplasms. An interpretation which

explains apparent differences by differences in classification is bolstered by the previously described de facto decreases for all causes of death as registered in 1976.

Table 7
Mortality of Older Canadians: Actual and Projected Rates Between 1955-1959 to 1985-1989

		Actual rate (per 100,000 population			Projected	Lowest rate recorded in province during
		1955-1959	1965-1969	1976(a)	1985-1989	1968-1970
65-69	Male	3,604.3	3,650.8	3,326.6	3,684.0	2,820.0
70-74		5,310.2	5,267.5	5,138.3	5,175.8	4,300.0
75-79		8,264.2	8,012.0	7,733.2	7,579.6	6,780.0
80-84		13,248.3	12,367.5	11,822.9	11,177.9	9,950.0
85+		22,713.9	21,220.3	19,575.5	21,059.3	18,520.0
65-69	Female	2,255.5	2,326.9	1,644.5	1,622.8	1,480.0
70-74		3,624.4	3,543.0	2,630.0	2,274.8	2,240.0
75-79		6,376.5	5,853.2	4,470.6	3,626.8	3,880.0
80-84		10,685.4	9,954.5	7,680.9	7,119.6	7,660.0
85+		22,302.3	19,010.5	15,469.9	17,087.4	15,620.0

a Data after the projections based on 1965-1969 data were made.

Source Statistics Canada, Technical Report on Population Projections for Canada and the Provinces 1972-2001, Cat. 91-516, Table 4.7; Causes of Death, 1976, Cat. 84-203.

Built-in Difficulties with Demographic Projections

The examples of mortality projections just described illustrate the difficulties demographers face when their projections are put to the test, even only a few years later, and the expected and actual data disagree. Whereas it is crucial to have fixed values when calculating future funding requirements for pensions, all assumptions about trends extending into the future are self-defeating. This is particularly so since the crucial variables of the length of life and of the proportion surviving are open to fluctuations. The fluctuations are more likely than not to move upwards unless unlikely policy reversals in medical care take place. Given few if any alternatives, the extant projections as developed by Statistics Canada, for instance, will do. In other words, the shorter the time span of a projection, the less will be the likelihood of error.

Table 8
Mortality of Older Candians, by Three Major Causes of Death, by Age Groups and Sex: Actual and Projected, Between 1965-1969 and 1985-1989

Diseases by age groups and sex		Actual rate 1965-1969	Actual rate 1976(b)	Projected rate(a) 1975-1979	Projected rate(a) 1985-1989
		(Rate per 100,000 population)			
Circulatory diseases					
65-69	M	1,725	1,728	1,710	1,694
	F	852	785	773	701
70-74	M	2,508	2,753	2,453	2,399
	F	1,380	1,447	1,166	896
75-79	M	3,826	4,304	3,726	3,629
	F	2,509	2,709	2,077	1,722
80-84	M	5,964	6,974	5,648	5,349
	F	4,614	5,020	4,055	3,565
85+	M	10,709	12,219	9,424	8,293
	F	10,641	10,681	10,503	10,366
Respiratory diseases					
65-69	M	237	245	320	432
	F	70	80	66	66
70-74	M	376	445	506	681
	F	124	138	117	110
75-79	M	619	773	758	929
	F	237	254	196	161
80-84	M	1,051	1,307	1,078	1,321
	F	512	528	416	338
85+	M	2,642	2,595	3,942	5,882
	F	1,355	1,389	503	503
Neoplasms					
65-69	M	883	890	1,012	1,186
	F				
70-74	M	1,143	1,306	1,302	1,483
	F				
75-79	M	1,508	1,705	1,639	1,781
	F				
80-84	M	1,950	2,171	2,077	2,212
	F				
85+	M	2,346	2,338	3,329	4,724

a Based on the actual rate 1965-1969 and a number of trend assumptions.
b Rate computed for a single year. It demonstrates the difficulty of projections. The classification of diseases deviates somewhat from that on which the projections were based: ICD Seventh Revision. The 1976 classification is that of ICDA, Eighth Revision.

Source Statistics Canada, Technical Report on Population Projections for Canada and the Provinces, 1972-2001, Cat. 91-516, Table 4.15, 4.18, 4.19; Causes of Death, 1976, Cat. 84-203.

MORBIDITY OF OLDER CANADIANS

The recent reports in mass media on the plight of the aged suggest that a good proportion of older persons are weak in body, uncertain of mind, and are occupying most of the hospital beds in the country. When the present young adult generation reaches retirement in forty to fifty years, so the story goes, all health care programs will be overburdened with arthritic senior citizens. The truth is, the data give cause for optimism.

Hospitalization

Over the last six years there was some increase in utilization of hospital facilities. For males between 65 and 74 the number of hospital separations (that is number of cases, not persons, leaving the hospital, including deaths) has increased by about 6 per cent beteen the years 1969 and 1975; for men older than 75 years the increase was 15 per cent. For women in the same age category the increase was 6 and 7 per cent respectively. During the same six-year period, the number of days for each stay in the hospital remained about the same for the younger group but increased by about one day for the older group. On the other hand, the average number of days in hospital per person in the corresponding age and sex group declined by about three days for the younger group and remained the same for persons over 75 years of age (Table 9). These slight changes for the better may be interpreted to mean a better utilization of hospital services by the aged, a more efficient provision of medical care by the hospitals, and in the case of separations, a slight increase in deaths in hospital over those at home or in various caretaker institutions. In any case, slightly fewer than one-third of males between the ages of 65 and 74 and less than one-fourth of females in the same age group use the hospital services annually, an indicator not too much higher than the average health experience of the adult population.

The decrease in stay in institutions for mentally ill and retarded was quite dramatic for the years between 1964 and 1974. The number of older Canadians between the ages of 65 and 69 in institutions was about halved during the period, from 777 to 373 per 100,000 population. For those 80 years and older, the same reduction occurred. An explanation for this dramatic decline lies in changes of treatment with the introduction of chemotherapy, and in a greater effort on the part of mental health institutions towards treatment and away from custodial care. In any case, the number of persons involved is quite small, about one-half of 1 per cent of all aged (Table 10).

Prognosis

In the area of health care, the advances thus far have been tremendous. As the general health care policies become refined to emphasize prevention, and the understanding of epidemiological issues increases the effectiveness of medical coverage, one may expect that public health

Table 9
Morbidity of Older Canadians: Stay in Hospitals, by Age Group and Sex, Between 1969 and 1975

		1975	1974	1973	1972	1971	1970	1969
					(Per 100,000 population)			
Separations(a)								
65-74	M	32,644	32,824	32,445	32,245	30,907	30,686	29,753
	F	25,584	25,787	25,300	25,394	24,834	24,980	24,181
75+	M	50,471	50,789	50,691	49,817	46,710	45,511	43,777
	F	36,874	37,364	37,106	36,636	35,958	35,670	34,557
Average stay(b)					(days per stay)			
65-74	M	5.9	6.0	6.1	6.1	6.1	6.7	6.1
	F	5.1	5.4	5.2	5.5	5.3	5.5	5.4
75+	M	13.6	13.8	13.6	13.6	12.6	12.5	11.9
	F	13.2	13.4	12.7	12.8	12.3	12.5	12.2
Days per person(c)					(in age group)			
65-74	M	18.0	18.4	18.7	19.0	17.9	20.1	20.5
	F	19.9	20.6	20.6	21.6	21.5	22.2	22.2
75+	M	27.0	27.1	26.9	27.2	26.9	27.4	27.2
	F	35.8	35.8	34.3	34.9	34.3	35.0	35.2

a Separations: discharge or death; the numbers represent number of cases, not persons.
b Average stay: days per each separation.
c Days per person: number of days per person in the corresponding sex and age group.

Source Statistics Canada, Hospital Morbidity, Canadian Diagnostic List, Cat. 82-209, Annual.

measures will have a positive effect on older persons' health. Primarily, however, as the younger cohorts born and raised after World War II reach late adulthood and old age, their attitudes as users of health services will illustrate a better understanding of their bodies and their health needs. One may therefore expect a healthier population in the years to come.

Table 10
Morbidity of Older Canadians: Patients in Mental Institutions Between 1965 and 1974(a)

	Patients by age group (per 100,000 population)		
	60-69	70-79	80+
1965	777	849	1,219
1966	709	769	1,118
1967	662	712	1,051
1968	605	660	990
1969	572	629	945
1970	514	574	889
1971	484	561	813
1972	451	518	747
1973	398	484	650
1974	373	460	614

a Last year for which data were available.

Source Statistics Canada, Mental Health Statistics, Vol. II, Patients on Books in Institutions, 1970-1974, Cat. 83-208.

IMPLICATIONS OF THE DEMOGRAPHIC INDICATORS FOR THE SURVIVORSHIP RATE

The main purpose of this report was to show that the older population has a better chance of survivorship than the preceding populations. The host of studies available to the Commission all stress that the proportion of the aged will increase, and with it the dependency burden in the years to come and, in particular, early in the next century. The various studies and reports argue, quite correctly, that the shape of the age and sex pyramid of th Canadian population is undergoing and will undergo dramatic changes, since fertility has declined and conceivably may remain quite low. Such a situation will have an effect of the proportion of the aged in the population only insofar as one assumes certain traditional cut-off points such as the sixth-fifth birthday. On the other hand, were one to compute dependency ratios using the number of persons 70 years old or older in the numerator and those 20 to 70 years old in the demoninator, the old age dependency ratio today would not be much different from that defined, more traditionally in 1929;

that is it would be about 9 aged males per 100 male population of the labour force age defined as 20 to 70 years of age. Such a dependency ratio would not exceed 14 by the year 2035 (Department of Insurance projections for the CPP) and might decline thereafter. The dependency ratio would be somewhat higher for women.

It is crucial to bear in mind that populations approximating a perfect survivorship model will have a substantial impact on the funding requirement for pensions. In other words, if the trends suggested in this report are to continue, Canada will have population which is not only long-lived, but in which (and this is of utmost importance) the longevity is evenly distributed to all. Traditional survivorship patterns encouraged the present system of funding the pensions: a sort of chain letter principle, which is predicated on the disparate size of the base population (the payers) and the early entrants into the chain (the payees). With the modern changes in growth levels (zero growth) and survivorship (homogenous mortality), a new design for pension funding is required.

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Canadian Occupational Structures: Expected Changes

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CHANGES IN THE CANADIAN OCCUPATIONAL STRUCTURE

Each time the decennial census was taken in the last fifty years or so, the changes in the content of enumerated jobs were sufficient to warrant creating new job description categories. Basically, there are two major criteria for describing the Canadian labour force: the area of work, for instance extractive industries or financial establishments, and the level of work, for instance skilled labour or management.

Changes Through 1971

The classification of work performed in the economic sectors in which people work is ceding its importance to the classification of the level of competence at which workers perform their jobs. This is reflected in the increasing proportion of non-manual occupations representing now close to one-half of the Canadian labour force. During this century, the major switchover was from the primary sector employment, primarily in agriculture, to the tertiary sector of employment; there was a slight increase in the secondary sector, primarily in manufacturing. For instance, in 1911, agriculture accounted for about 40 per cent of the male labour force but in 1971 it accounted for only close to 9 per cent of the male labour force. Professional, managerial, and clerical male labour force in 1971 accounted for over 30 per cent of the labour force, but in 1941 it accounted for somewhat over 15 per cent of the Canadian labour force.

Concomitant to the social change affecting the composition of the labour force is the increased inclusion of women in the labour force. In 1911, only about 16 per cent of all women 15 years of age or older were gainfully employed (the acknowledgement of women in agriculture did not take place until the 1951 census); in 1971 the proportion rose to 37 per cent. The major switch for women was out of the service occupations in particular personal service, they held fifty years ago, into clerical and professional occupations in which close to 50 per cent of the female labour force were enumerated in the 1971 census (Kubat and Thornton, 1974: 135-167).

Occupational Prestige

All societies value differentially work performed and, at the same time, all societies seem to agree on categories of work which are valued highly and on categories of work which are viewed as demeaning. Industrial societies are characterized by a very complex occupational structure but, within its complexity, the ranking of occupations is fairly similar from society to society. Basically, the ranking is the result of the composite of talent and the need to get the work done. The higher the talent required for a job and the more important the job is in terms of its impact of the societal organization, the higher the prestige of such an occupation. In Canada, the "knowledge" workers who also occupy positions of administrative responsibility, for instance

university presidents, appear to earn high prestige (Blishen and McRoberts, 1976). There is a substantial sociological literature on occupational distribution of the labour force. The literature is tied to the concern with social change, in particular, the concern relative to social stratification and mobility, that is to the allocation of jobs to population (Tepperman, 1975). Thus far, the Canadian labour force experienced an upward mobility; the chances for the son to do better than his father in terms of holding a "better" job were fairly good. This was possible by a structural change of the occupational structure whereby new jobs being created were disproportionately in "higher" occupational categories of non-manual employment, accompanied by improved pay and working conditions.

The result of the expansion of the labour force, partially through the growth of population (natural increase and immigration) and through the increasing labour force participation of the population (decrease in mortality in the adult population and entrance of women into the labour market) is a greater complexity of tasks to be performed. There are now well over 20,000 job classifications in Canada (Statistics Canada, 1971; Dominion Bureau of Canada, 1971). The prestige and desirability of some of the jobs are known and acknowledged and, the means to qualify for even exalted occupations are available to a greater proportion of the population than ever before and than there are actual positions available. This situation produces certain pressures which will affect the future occupational structure in Canada. The prestige of non-manual occupations operates through a trickle effect, parallelling the spread of fashions. "Cheap" versions of high fashion become widely available and also desirable. Thus, in the occupational aspiration schema, job holders would like their jobs to look like high prestige jobs. Many such jobs can be upgraded in their image even though their content does not change.

Labour Force Mobility

Labour force mobility is likely to increase with the realization of one's substantial longevity through the redefinition of one's job as a career. Some of the mobility reflecting early retirement of the older worker is a function of technological obsolescene (Baum, 1974); mobility of the younger workers is a function of their job seeking behaviour and passing through their family life cycle (Economic Council of Canada, 1976). Until now, the "fruits" of early job mobility resulted in a deprivation of potential private pensions and encouraged those affected to work past their legal retirement age. A study of CPP contributors covering the years 1968 through 1972 in four regions in Canada (Quebec excluded), showed that "between half and three-quarters of male and female workers aged 25 to 44 had changed employers at least once." (Economic Council of Canada, 1976: 90). Canadians show a fair amount of worker mobility which is not likely to decrease over time. More likely than not, job changes will continue to increase, as the basic needs of income security are being met through various insurance type

arrangements (guaranteed income, unemployment insurance, etc.) and through a combination of earners into one household.

Expected Changes into the Future

The literature on the future of modern societies is formidable. The literature in the social sciences is dominated by views articulated by Daniel Bell (1973). His post-industrial society is expected to have an occupational structure, the beginnings of which are noticeable now. The tertiary sector will gain primacy within which "the knowledge workers," as Peter Drucker calls them, will play the main role. Social change does not occur, however, unless the preconditions are already there; the recent changes in the Canadian occupational structure towards service and professional employment will no doubt continue into the future. These changes have a number of implications for the composition and behaviour of the future labour force:

1. The new modes of employment presuppose a formal educational training which, indeed, is now available to the young cohorts of population.

2. The widespread access to and utilization of formal educational institutions produce population sufficiently informed about the mechanics of acquiring knowledge even though the individual ability to demonstrate their knowledge may and does differ.

3. The universally high level of formal education combined with the universally accessible information via the mass media essentially demystify "high learning" and the attendant prestige distribution of occupations. That is, occupations such as physicians or supreme court judges lose to managers and corporation directors in terms of the highest prestige awarded. In other words, organized corporate entities win out over individual achievers. Inasmuch as incumbents of controlling positions in corporate bodies (university presidents, financial institutions directors) are subject to an essentially political review, which, in turn, is informed by societal goals more than by pure economic considerations, then the review by peers prevails. The review by peers, for a long time characteristic of the scientific community, becomes the central mode of operation of any professional and by extension occupational group. This ethos of science is crucial to any self-regulating commune. The changes outlined will produce a labour force which will be well trained in terms of formal education received. Not all the education received will be directly applicable to their jobs. The effect of the formal education will be a decreased emphasis on direct supervision on the job and a greater feeling of equality among the members of any occupational group. The rewards will go to those able to organize effectively, either politically or administratively, other people and production of

goods and services. However, the tenure of the organizers may be limited and subject to continuous review. The trend toward the tertiary and even quaternary sectors of the economy will mean that the overall worker productivity as measured by the number of all employed and the GNP per worker will decline and the whole economy will become bimodal in terms of a highly productive primary and secondary sectors which are capital intensive and less "productive" tertiary and quaternary sectors which are labour intensive. It is the labour intensive sectors of the economy which will be modal for the behaviour of the labour force and will have an impact on labour force participation in the future, forcing it.

LABOUR FORCE PARTICIPATION RATES

The numerical values for labour force participation rates reflect the definitions under which such data are collected. Initially, only gainfully active population was intercepted in the governmental statistics and used as a basis for determining labour force participation rates. More recently, beginning with this decade, Statistics Canada began to define as labour force all those either employed and working and those actively looking for work. This new definition is more inclusive and increases the numerical values of the labour force participation figures.

Recent Developments

The census values for labour force participation over the last thirty years or so peg the overall participation of males fifteen years and older at 84 per cent in 1951 and at 76 per cent in 1971. The value was lower during the 1941 census because of the war. Thus, there was a small but perceptible decline. The labour force participation rates for women have risen, doubling between 1941 and 1971 (Table 1). More recently, using data from the monthly Labour Force Survey (Tables 2, 3, and 4) labour force participation of males under twenty years of age shows a slight increase during the last ten years, showing the impact of the post-war cohorts entering the labour market; men in their middle years show a fairly steady and high participation rate; men in their middle and later years show a decrease in their participation rate, which is quite dramatic and implies pensioning off at an earlier age than the sixty-fifth birthday. Women, on the other hand, show a slight increase in labour force participation in the same older years and a strong increase in their young adult years.

Table 1
Population 15 Years of Age and Over in the Labour Force, by Age Group and Sex, Canada, 1941-1961

	1971(a)		1961		1951		1941(b)	
Age group	Male	Female	Male	Female	Male	Female	Male	Female
				(Per cent)				
15-19	46.6	37.0	39.5	33.0	57.1	37.2	50.9	25.8
20-24	86.5	62.8	86.6	49.3	92.3	46.8	68.9	41.8
25-34	92.6	44.5	93.9	29.5	96.4	24.2	86.8	24.8
34-44	92.8	43.9	94.2	31.0	96.7	21.8	91.6	16.1
45-54	90.3	44.4	91.8	33.3	94.5	20.4	93.8	12.9
55-64	80.1	34.4	81.7	24.4	85.7	14.5	89.3	10.9
65+	23.6	8.2	28.4	6.7	38.6	5.1	47.2	5.5
All groups	76.4	39.9	77.7	29.5	83.8	24.1	78.4	20.7

a Excludes Yukon and NWT prior to 1971 and Newfoundland prior to 1951.
b Excludes persons in active service from the gainfully occupied (Labour Force) count for 1941.

Source D. Kubat and D. Thornton. A Statistical Profile of Canadian Society (Toronto: McGraw Hill-Ryerson, 1974), Table J-2, pp. 145-6.

Table 2
Labour Force Participation Rates, by Age Group for Males, Canada, 1966-1975(a)

	14-19	20-24	25-44	45-64	65+	All
1966	38.6	87.4	97.6	91.8	26.4	77.8
1967	39.4	86.0	97.3	91.7	24.7	77.5
1968	39.1	84.4	97.1	91.1	24.4	77.0
1969	37.9	84.2	96.9	91.1	23.6	76.6
1970	38.6	83.2	96.7	90.6	22.7	76.4
1971	39.0	83.4	96.7	90.0	20.0	76.1
1972	40.8	84.0	96.8	89.2	18.7	76.2
1973	43.7	85.3	96.8	88.9	18.3	76.8
1974	44.3	86.1	97.0	88.3	17.8	77.3
1975	46.6	85.5	96.8	87.9	17.4	77.2

a Data are taken from the monthly Labour Force survey of the Canadian labour force. Over the years, the concept of the labour force has become more inclusive. Originally the survey counted only those who were gainfully employed; now those actively looking for work are also included. The data are subject to the standard statistical sampling errors. Residents in the Yukon and the Northwest Territories and Indian reserves, inmates of insitutions, and members of the armed forces are excluded.

Source Statistics Canada, The Labour Force, December 1975, Table 37, Cat. 71-001.

Table 3
Labour Force Participation Rates, by Age Group for Females, Canada, 1966-1975(a)

	14-19	20-24	25-44	45-64	65+	All
1966	31.4	55.6	34.3	33.9	5.9	32.8
1967	31.6	56.6	35.7	35.0	5.9	33.8
1968	31.3	58.4	36.4	35.5	5.9	34.4
1969	31.1	59.3	38.5	35.5	5.5	35.2
1970	30.4	58.5	39.6	36.0	5.0	35.5
1971	31.1	59.9	40.9	36.7	5.1	36.5
1972	32.0	60.5	42.8	36.3	4.3	37.1
1973	34.2	62.5	66.5	37.8	4.4	38.7
1974	36.7	63.0	46.6	37.4	4.2	39.7
1975	36.5	64.4	49.6	37.2	4.4	40.9

a Data are taken from the monthly Labour Force survey of the Canadian labour force. Over the years, the concept of the labour force has become more inlusive. Originally the survey counted only those who were gainfully employed; now those actively looking for work are also included. The data are subject to the standard statistical sampling errors. Residents in the Yukon and the Northwest Territories and Indian reserves, inmates of institutions, and members of the armed forces are excluded.

Source Statistics Canada, The Labour Force, December 1975, Table 37, Cat. 71-001.

Table 4
Labour Force Participation Rates, by Age Group and Sex, Canada, 1976-1978(a)

	1976		1977		1978(b)	
	Male	Female	Male	Female	Male	Female
			(Per cent)			
17-19	66.3	60.2	68.0	59.5	68.5	59.7
20-24	85.1	67.3	85.1	68.8	90.0	71.6
25-34	95.5	53.9	95.3	55.2	96.0	59.0
35-44	96.0	53.3	95.9	55.7	96.5	57.7
45-54	92.8	48.3	92.4	49.2	93.1	52.1
55-64	76.7	32.1	76.6	32.2	76.8	32.8
65-69	25.5	7.8	25.1	8.5	22.4	8.4
70+	9.8	2.2	9.2	2.0	9.6	2.8

a Based on Labour Force survey data, seasonally adjusted. Starting January 1976, the survey contains substantial revisions as compared to the previous years. Population sampled is 15 years of age or older and residing in Canada, with the following exclusions: residents in Yukon and Northwest Territories; persons on Indian reserves; inmates of institutions, and full-time members of the armed forces.

b For May 1978.

Source Statistics Canada, The Labour Force, Cat. 71-001, December 1978, December 1977, May 1978.

Expected Labour Force Participation

There are three major components which will influence the labour force participation in addition to the economy:

1. population composition;

2. occupational composition;

3. income-leisure choices.

In terms of population composition, the Canadian population of the labour force age will remain stable and even increase somewhat for the foreseeable future. (Denton and Spencer, 1977). There will be some tapering off of the size of the young entrants into the labour market starting in about ten years and lasting at least for another fifteen years, depending whether or not the expected increase in fertility will take place. In any case, the present mortality conditions assure a labour force virtually unaffected by dying off at later working ages. Thus, any additional needs of the labour force may be met from the pool of persons who will not die, as it were. In terms of occupational composition, the new occupational structure will be heavily weighted towards service occupations (in the widest sense of the word) and is likley to be unisex, thus enlarging the pool of potential labour force to the total population. Working in such occupations also allows "flex-time" arrangements, thus permitting parenting and working at the same time. In terms of income-leisure choice, the prognosis is uncertain. On the one hand, maximization of income is characteristic of the present-day working behaviour (Linder, 1970); on the other hand, the experience with the younger labour force seems to indicate a certain detachment from work coupled with absenteeism. The latter may be only a function of youth with precedents in the past (Wright and Hamilton, 1978). In any case, the labour force participation is not affected, until the latter years of life where the clear prevalence of early retirement choices is observable.

Were one to correct today's labour force participation data in the later years of life (e.g., starting with the age of 60 or higher) by the mortality of earlier decades, the observed decrease in labour force participation would be much reduced. In other words, inasmuch as the recent utilization of early retirement is being justified primarily on reasons of health (Ball, 1978), one may surmise that some years earlier, among males, those now retiring early would have died. Thus, a proportion of male cohorts remaining in the labour force may be fairly constant over time (Tepperman, 1975). The case of the female labour force has been greatly modified by the changes in the cultural redefinition of woman's role in society, away from the home to the labour market.

SUMMARY

The tentative conclusions one may draw from the changes in the occupational structure of Canada are as follows:

1. The composition of the labour force will tend towards being evenly distributed between the sexes, with some under-representation of women in child-bearing ages between 25 and 35 years. The labour force participation for women will stabilize at about 60 per cent during the child-bearing ages and will tend to be unisex, economic conditions permitting, for the other working life age groups.

2. As the "professionalization" of more and more occupations progresses so will the attachment to the labour force become stabilized and the pressures for early retirement may abate.

3. The labour force participation of persons 55 years or over is more likely to increase as much as the disincentives to continue working, namely ill health, unpleasant working conditions, and a lack of retrainability diminish.

4. In another thirty years or so, the present labour force composition, in which the workers possess but minimum formal education and the resulting lack of skills to manipulate their own lives, will be fully replaced by workers whose formal education will exceed the job requirements. More likely than not, such a labour force will be more respectful of the value labour force participation brings to the society as a whole.

5. It is quite possible that the swelling of the labour intensive sectors of the economy will require that more people work at reduced compensation for a longer period of their lives faced with an unprecedented longevity in good health. This factor alone would reintegrate work into human life, for men and women alike.

NOTE ON THE COMPARABILITY OF LABOUR FORCE PARTICIPATION DATA

The labour force participation rates presented here are from the monthly Labour Force Survey. Their base population is non-institutionalized Canadian population reached via a mailed questionnaire. These data are customarily used in the literature on the economy of the country. They reflect the "true" participation within the standard sampling errors; that means there may be several points deviation up or down for the respective values. These data were used for labour force participation predictions under high, medium, and low fertility assumptions by the Economic Council of Canada, drafts of which are now available to the Commission as part of the ECC's project on Canada's Retirement Income

Policies, now underway. Inasmuch as the process of short-term projections (until 1991, from the base year of 1976) does not allow for any radical changes and has to incorporate the previous trends, the projections are acceptable, even though, to my mind, the participation rates may be higher in the late 1980s for the older groups for reasons outlined. Of course, underestimating labour force participation can only help to cover the potential shortfall in CPP funding.

The Commission has also before it labour force participation rates projections by the Department of Insurance, contained in Appendix C, of the Report by Keith H. Cooper, June 7, 1978. The rates are not entirely comparable due to the different assumption entering the computations, inasmuch as the population base for the Department of Insurance is constricted compared to the "true" population.

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Private Pensions and Indexing: A Review of Issues and Policy Alternatives

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March, 1979

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1. INTRODUCTION: THE INDEXING DEBATE

The origins of the pension indexing debate in Canada can be traced to the acceleration of price and wage inflation which started in 1972, and to the recent levelling off of the pace of inflation at rates about two to three times higher than the more moderate inflation rates of the 1960s.

During the first half of the 1970s, while inflation was accelerating, private-sector employer-sponsored pension plans were faced with two interrelated problems. On the one hand, the earnings which their investments generated were clearly insufficient in real terms - in many cases, the real rates of return earned were negative, and well below the estimates originally factored into the plans. It was difficult for such plans to remain actuarially sound in face of the increasing liabilities created by the rapid escalation of money wages and prices. On the other hand, the indexing of public sector pension plans, together with the indexing of the Canada-Quebec pension plans (CPP and QPP), and Old Age Security (OAS) pensions imposed added pressures on employers to introduce similar post-retirement indexation of benefits.

Private pension funds obviously were caught in a financial dilemma; bonds and stocks were unable to serve as hedges against accelerating inflation and they were also facing increasing liabilities. It was felt that full-scale indexing of private post-retirement benefits would only exacerbate plan liabilities. Indeed, some observers claimed that post-retirement benefit indexing would place the entire private employer-sponsored pension system in jeopardy.

Thus, Douglas Fullerton argued in an article in The Ottawa Citizen on October 2, 1974, that "in a mobile and inflationary age, the traditional company pension plan has little place." And, in a 1974 newsletter, William M. Mercer Limited warned that unless the rate of inflation was brought under control and reduced, that "it would not be unduly pessimistic to forecast a breakdown" of the entire private pension system.

The investment community and private employers were a focal point for many of these pressures, and tended to respond by attacking the federal government employee, indexed pension system. It was argued generally that the total costs of these pensions were seriously underestimated, and that Ottawa could afford to enter into such plans only because of its taxing powers. That is, Ottawa need not concern itself with the viability of its pension schemes in a manner similar to private plans. Consequently, many individuals called for the de-indexation of federal government employee pension plans, and there was some spill over into demands that even the CPP and OAS systems be de-indexed partially.

Keith Cooper, a well-known Canadian actuary, adopted a more moderate approach. In a speech presented to the Guelph Chamber of Commerce on June 6, 1978, he argued that "public servants are being paid base

salaries that are roughly comparable to those in the private sector but with a pension program that costs 9 per cent of pay more than average plans in the private sector. Consequently, their total compensation package ends up being ahead of their private-sector counterparts. This suggests that if public servants are to retain their indexed pensions, they should either reduce the level of benefits initially provided at retirement, take a cut in pay, and/or eliminate the overly generous early retirement features of the plan."

But, as we note in this study, without full indexing, the real value of pre-retirement and post-retirement pensions declines very quickly at the current high rates of inflation. Moreover, it is unlikely that society would deliberately choose to allow private pensioners to experience serious erosions in the real value of their retirement income. The many examples of ad hoc or partial indexing suggests that private employers share the general objectives of sustaining the purchasing power of private pension benefits. This then raises the fundamental concern of this study; if the corporate sector appears unable to support financially a post-retirement indexed pension system, and society cannot afford to, or is unwilling to allow non-indexation of post-retirement pensions, then who is to bear the cost for indexed post-retired pensions? And equally important, what proportion of the total post-retirement pension should be indexed?

There are two associated elements in the debate concerning private pension indexing. This study provides no estimates of the financial costs of full indexing to private employers under the various schemes considered, but a cost sharing formula could be arrived at which included government, employers, and employees, all contributing to indexing costs.(1)

The second element is the reality that the institutional pension industry now is a dominant force in Canada's investment industry. Full indexation of private post-retirement pension benefits would likely serve to increase that dominance. As Yves Guerard pointed out in a paper entitled, Pension Funds and Their Impact on the Direction of the Economy, in 1977 the existing assets of the pension industry totalled approximately $40 billion, and that this figure is larger than the aggregate corporate direct and guaranteed debt or the market value of the 300 stocks of the TSE composite index. Moreover, the sum represented about one-half of the assets of the top fifty industrial corporations.

Thus, the primary intention of this study is to consider who or what institutions should assume the costs or risks of indexing private pension benefits. This study illustrates that there is no single answer to the above question, even though a fairly good case can be made that indexed private benefits are required. A series of proposals that have been advanced on this subject are reviewed and critically assessed in an attempt to come to grips with the question of indexation and its relative burden.

The structure of the study is as follows. Section 2 discusses the role of the private pension system and its interaction with individual savings and the federal social security programs in Canada. As the study notes, there are three fundamental tiers in the pension-social security system. There is the government tier, consisting of Old Age Security and the Guaranteed Income Supplement, and in Ontario GAINS, together with the Canada Pension and Quebec Pension Plans; there are the private employer-sponsored plans; and as well, there are private individual savings within which are included RRSPs.

Section 3 of this study provides an overview of inflation in Canada, particularly in terms of its causes, the stability of inflation, and its so-called neutrality properties. This section also includes a discussion of the relation between nominal interest rates and inflationary expectations, the apparent winners and losers from inflation, and the problems which have arisen for employer-sponsored pension funds in an inflationary climate.

Section 4 considers the general subject of indexing and government financial management. One subject discussed here relates to whether or not existing indexation provisions have tended to be inflationary for the industrial countries. A review of some estimates on income distribution in Canada is used to support the contention that post-retirement incomes should be indexed to some degree. As well, this section considers the redistribution impacts of government on incomes and expenditures in Canada, and undertakes a brief review of the relationship between government revenue growth and spending growth.

Section 5 presents a simple theoretical model predicated on the life-cycle savings hypothesis. This model is used as a basis for evaluating the various post-retirement indexing schemes that have surfaced recently. Finally, the last section of the study provides a critical assessment of the various post-retirement indexation schemes. As this section of the report stresses, a critical aspect in the various proposals is the likely impact of any indexing plans on the distribution of income among persons in Canada. Unfortunately, the distributional effects of some of these schemes are potentially very complicated, and therefore hard to evaluate.

The various indexing proposals are summarized under the following topics - though there is considerable overlap among the proposals.

1. The index bond solution
2. The government as an insurer of last resort
3. Excess interest scheme
4. Continual ad hoc indexation adjustments
5. The collective bargaining fulcrum
6. The Royal Commission proposal

7. Cofirentes +; Martin O'Connell proposals - proposals to extend CPP/QPP
8. Keith Cooper - partial indexation plan.

2. THE THREE TIER POST-RETIREMENT SAVINGS SYSTEM IN CANADA

a) The Federal Social Security System

The federal social security system in Canada consists of a series of programs - Old Age Security (OAS), the Guaranteed Income Supplement (GIS), and the Canada and Quebec Pension Plans (CPP and QPP). The universal OAS program provides an inflation escalated benefit for those individuals 65 years of age who meet the necessary residence requirements in Canada. Beginning in 1977 the basic pension under the Old Age Security Act was $141.34 per month for an individual.

The GIS, which amounted to a maximum of $99.13 per month in January, 1977 for individuals and $176.66 per month for a family of two, provides an additional form of social security income designed to ensure a minimum level of individual or family income. It is thought that the GIS, which is subject to an income test, will diminish in importance over time as more Canadians draw benefits from the CPP and QPP. In January, 1977 the maximum monthly pension available under the OAS and GIS was $240.47 for an individual and $458.74 for a married couple. Both are financed on a pay-as-you-go basis.

The CPP and QPP are social insurance plans which gear the benefits to earnings-related contributions of both employees and employers.

The CPP and QPP plans are compulsory, and cover nearly all employed and self-employed individuals, and there are no federal government contributions or subsidies to the funds. The main benefits are retirement income geared to work-related contributions, although widows, widowers, orphans, and disabled persons are also protected under the plan. The CPP is only partially funded, and in a sense can be described as falling somewhere in between a pay-as-you-go funding scheme and a fully funded system.

Employers and employees each contribute 1.8 per cent of the employee's earnings for an aggregate contribution of 3.6 per cent of the earnings base. The earnings base is calculated as the difference between the year's maximum pensionable earnings (the YMPE) and the year's basic exemption (YBE).

In 1977, the YMPE was $9,300 and the YBE (10 per cent of the YMPE rounded down to the next $100) totalled $900. Thus, the maximum contribution in 1977 was $151.20 for the employee and employer of an employed individual.

The CPP provides a retirement pension of 25 per cent of adjusted average earnings. The 1977 maximum pension was 25 per cent of $8,333.33 or $2,083.32 per annum. The direct pension benefits are indexed to the consumer price index increase, while the YMPE is indexed in a somewhat different way. The YMPE, which governs the contributions and ultimate benefits paid, is escalated at 12 1/2 per cent per annum until it reaches the industrial composite index of wages and salaries. After it reaches that total, future increases in the YMPE will be tied to the increases in the industrial composite wage and salary series.

In 1977, Old Age Security payments from the federal government were just under $4.7 billion. This represented 35.9 per cent of total federal government transfer payments in that year, 2.7 per cent of total personal income, and 15 per cent of total personal direct taxes. An examination of the data in Table 1 reveals that Old Age Security payments have tended to remain a constant 2.7 to 2.8 per cent of total personal income over the past ten years. On the other hand, since the Old Age Security payments are funded on a pay-as-you-go system, the payments as a proportion of total personal direct taxes have tended to decline in two stages since 1968. In that year they represented just under 18 per cent of total personal direct taxes and in 1977 they amounted to just 15 per cent.

Payments under the Canada and Quebec pension plans amounted to just under $1.4 billion in 1977 - roughly .8 per cent of total personal income in that year. On the other hand, payments into the Canada and Quebec pension plans totalled $2.4 million in 1977, equal to 1.7 per cent of personal disposable income and 7.7 per cent of personal direct taxes. Altogether in 1977, CPP, QPP, and OAS receipts represented 3 1/2 per cent of total personal income in Canada and the contributions into the scheme amounted to 22.7 per cent of personal direct taxes and just over 4 per cent of total personal income. As a proportion of total personal direct taxes, the contributions to Canada Pension Plan, Quebec Pension Plan, and OAS have declined from 29.1 per cent in 1968 to just under 23 per cent in 1977.

It is also interesting to note that the CPP and QPP contributions, which are a form of forced savings imposed upon individuals by the government, have declined as a proportion of total personal and unincorporated business savings over the last ten years. In 1968 these contributions equalled 35 per cent of total savings, excluding these contributions, and in 1977 they amounted to 16.2 per cent. Hence, the importance of this tier relative to total national savings has been on a decline for the past ten years

b) Employer-Sponsored Pension Plans

Recently there has been a series of special reports and studies on the subject of pensions and their actuarial status. For example, Statistics Canada carries out annual surveys of pension plans (Cat. 74-

201). In March 1978 the Financial Executives Institute of Canada published a report on their own survey of pension plans. As well, there have been some newly published books on the subject of pension funding in Canada, one by Pesando and Rea, entitled Public and Private Pensions in Canada: An Economic Analysis, and one by Geoffrey Calvert, entitled Pensions and Survival.

Statistics Canada data provide a good starting point for an empirical discussion on the current status of pensions in Canada. Since this report deals with indexing - as it could potentially affect pension funds, pensioners, and the financial market - it is important to consider the actual dimensions and features of most plans which are currently in place. That is, many of the concerns expressed about the purchasing power of benefits relate to the empirical realities of the plans, their size, their asset composition, their funding situations, and the inflation protection built into the funds for the pensioner.

The Statistics Canada data we refer to cover employer-administered pension plans - and included in the employer classification are the various levels of governments. As the data in Table 2 illustrate, slightly less than 40 per cent of the work-force were members of an employer-sponsored plan in 1976. As Statistics Canada notes:

> "The public sector consists of some of the largest plans in the country, notably those for the federal employees, the Armed Forces, crown corporations and provincial employees...that is, there are relatively few plans within the public sector, but they are large in terms of employee coverage...The vast majority of the plans (in 1966) - 14,999 out of 15,600 - were in the private sector and covered 2,147,000 persons, 55 per cent of all participants."(page 16)

The figures in Table 2 illustrate the wide differences in coverage. Virtually all public sector employees were covered by pension plans in 1976, whereas the private sector coverage has been consistently below 40 per cent of the work-force. (If adjustments are made to exclude the self-employed and part-time workers, the proportion approaches 65 per cent.) This latter point possibly requires underscoring. That fact that fewer than 40 per cent of private sector employees are covered by employer-sponsored pension plans has distributive implications for the various indexing schemes which have been proposed. As we note in Table 2, coverage is greatest in the high wage industries (mining, manufacturing, construction, and transportation and communications) and in the public sector.

From the perspective of a pensioner seeking protection for his stock of wealth during his pre-retirement years and for his income flow in his retirement years, his problem can be broken up into two time frames - protection of real wealth while he is contributing to his pension fund, and protection of wealth (and earnings) after retirement. In the pre-retirement years, those members of private pension plans which

have formula benefits geared to their income just prior to retirement are protected somewhat against inflation.

Pre-retirement indexing refers to the tying of pension benefits to incomes earned, which in turn are assumed to reflect directly inflation and productivity improvements. Thus, the pensioner would want to insure that the real benefit in year one of retirement has been attained in line with price and productivity increases during the individual's working life. While no plan specifically allows for full pre-retirement indexing for inflation and productivity, since some type of averaging formula is generally applied, the following discussion simply illustrates that plans based on the average of highest income provide the best pre-retirement protection.

Table 3 below sets out an average annual earnings series for Canadian workers between 1957 and 1977. Over that time interval the consumer price index rose at an average rate of 4.2 per cent per annum. Over the five years ending 1977, the index rose an average of 8.9 per cent per annum, while in 1977, the consumer price index rose 8 per cent.

If the pension benefit were based on the final year's work income, and assuming that the formula specifies that the pension benefit equals 40 per cent of that income (2 per cent of earnings for each of the twenty assumed years of service), then in this example the retirement benefit would be $4,108 per annum - 40 per cent of the $10,270 amount. In this case, it would appear that the plan allows for full pre-retirement indexing. However, if during this final year the employee experiences some unemployment or underemployment because of general economic conditions, then the benefit would be below the $4,108 figure. In effect, economic conditions can offset the apparent full pre-retirement index provision of such plans.

If the benefit is based on an average of the last five years' earnings, the benefit declines to $3,312 per annum; based on a twenty-year income average, the benefit declines to $1,936 per annum. As long as wages and salaries increase somewhat faster than the pace of inflation, the average of best earnings plan provides the most protection in an inflation environment.

Pre-retirement inflation protection of benefit payments then can be improved for the employee if he is able to negotiate collectively either a final earnings plan or a highest average earnings plan. Since such plans are in existence, and pre-retirement indexing has been provided, the question is raised once more as to why negotiated private sector post-retirement indexing is not more widespread.

Alternatively, if Canada were to move into a genuinely deflationary period (when actual price levels decline during the working years), nominal money earnings would be declining, and a pensioner's interests would be protected best by the lifetime average earnings scheme.

The types of employer-sponsored plans in existence have been changing in the 1970s, and these trends are evident in the data in Table 4. In 1976, 73.7 per cent of the still working members of pension plans were covered by defined benefit plans, with some inflation protection offered by the high proportion of plans in either the average best earnings category (52.8 per cent) or the final average earnings category (3.2 per cent). Money purchase plans and flat benefit plans accounted for 4.7 per cent and 19.7 per cent respectively of the covered employees. The number of workers covered by average best earnings plans, a plan form offering at present the best form of pre-retirement inflation protection, has been rising. In 1960, 34 per cent of the covered workers were in an average best earnings plans. In 1976, the proportion rose to 52.8 per cent. These plans are among the largest in operation and obviously must be favoured by large employers.

Most of the members of final earnings plans, final average plans, or average of best earnings plans in 1976 were entitled to pension credits of 2 per cent of earnings for each year of credited work. Membership in career average earnings plans tended to also earn pension credits of 2 per cent or more of earnings for credited service. Because of the nature of the difference in the numbers covered by career average earnings plans and final average or average best earnings plans, the change between 1965 and 1976 in the proportion of the work-force earning 2 per cent or more in benefits per year of service has been greater in the career average case. In a nutshell, career average plans provide slightly less inflation protection in the working years; as a result, the 2 per cent or more benefit criterion has spread more rapidly within this group of plans. (See Table 5.)

The figures presented in Table 4 indicate that flat benefit plans accounted for only 6.2 per cent of private employment pension plans in 1976. In a flat benefit plan the pensioner earns retirement income on a fixed amount of money for each year of service. Some inflation escalation can be seen in these figures with a greater concentration of higher benefit rates over time. (See Table 6.)

A further recognition of inflation follows from the fact that there has been some increase in the number of employer-designed pension plans which provide indexed benefits to the employees. According to Statistics Canada, at a national level there were 141 plans in 1974 which had indexed benefits, covering 607,894 workers. In 1976, the number of indexed plans increased to 171, covering just over one million workers. Indexed benefits were available to nearly 27 per cent of the covered work-force in 1976.

Inflation indexing of benefits is largely a public sector fact of life, however, since 53 per cent of covered public sector workers are protected by indexing, while less than 5 per cent of the private sector workers had indexing made available to them. The inflation escalation protection is not uniform, but as Statistics Canada notes:

"In recent years there has been a trend towards a higher ceiling which in some cases went up to 8 per cent or 10 per cent. A significant variation to this pattern has been the complete lifting of the ceiling to tie escalation directly to the full consumer price index." (page 54)

Ad hoc indexing occurs as a number of employers periodically review their pension programs in the light of the inflation erosion of benefits. Thus, the Financial Executives Institute, in a survey published in March 1978, notes that 56 per cent of the employers they contacted undertook ad hoc adjustments, and only 5.4 per cent of employers indexed pension benefits according to a published formula.

According to Statistics Canada, the pattern of employee contribution rates has remained fairly fixed in the past decade.

"At the beginning of 1976 nearly 60 per cent of the members of all contributory plans were required to contribute between 5 per cent and 6.99 per cent of earnings, compared with 61 per cent in 1965. Within the range the most common rate was 5 per cent of earnings which applied to 27 per cent of the members of all contributory plans, followed closely by 6 per cent of earnings applied to only 9 per cent of all members, with the greatest concentration at the 4 per cent level."

According to the series of surveys of total labour cost in Canada, undertaken by Statistics Canada and summarized by K.J. Harwood in an article in the January 1977 issue of The Canadian Statistical Review, "about one-third of the private pension plans are 'integrated' with the CPP-QPP. It should be noted that while one plan in three is integrated, nearly three-quarters of all members are in these plans. Each time the earnings base for the CPP-QPP rises, there is an increase in contributions to those plans resulting in a corresponding decrease to private plans." This interrelationship between employer-sponsored pension plans and CPP-QPP system is important to keep in mind when evaluating the various schemes that have been put forth. Moreover, the relative importance of employer contributions to pension plans varies across industries, as does the coverage of these plans.

Table 7 shows that in firms and institutions in which private pension schemes exist, employer contributions varied between 1.5 per cent in the trade industries, and 5.1 per cent for teaching and academic staff in educational institutions of total labour compensation. In manufacturing and mining, the proportion was about 2 1/2 per cent, although this figure applied to the early 1970s. The relative importance of employer pension contributions to total labour compensation tends to be rather small in firms with private pension plans and hence there seems to be some room for absorption of the additional costs stemming from post-retirement indexation of benefits.

c) The Private Savings Tier

In 1977, net personal savings were $14.9 billion or 10.7 per cent of personal disposable income. This volume of net savings represented an almost 5 1/2-fold increase in nominal terms in the volume of personal savings since 1968. (In real terms, net personal savings in 1977 were 2 1/4 times as large as in 1968.) Gross savings, including capital consumption allowances and miscellaneous valuation adjustments, totalled just under $22 billion in 1977. In 1976, net personal savings totalled $13.6 billion and gross savings $19.8 billion. In that year, according to Statistics Canada (Cat. 74-401), there were approximately 1.1 million registered retirement savings plans in effect and the total contributions surpassed $1.5 billion or 11.2 per cent of total net savings (7.7 per cent of total gross savings in that year). Combined employee and employer contributions to funded employer-sponsored pension plans totalled an additional $3.4 billion in 1976. This represented 24.9 per cent of total net savings in 1976 and 17.1 per cent of total gross savings.

Thus, in total, contributions for registered retirement plans and funded employer-sponsored pension plans represented only 36.1 per cent of total net personal savings in 1976. The bulk of the savings went into financial securities, which represented planned additions to wealth to finance retirement income as well as to provide for endowments to be passed on to following generations.

If one adjusts the net personal savings figure in 1976 to include the tax contributions used to finance the Old Age Security system as well as the contributions to Canada Pension Plan and Quebec Pension Plan, one derives an adjusted net savings figure of $20.1 billion in 1976. Of this adjusted basis, employee and employer contributions to funded employer-sponsored pension plans equals 16.9 per cent of net savings, tax contributions to the OAS 21.4 per cent, and payments to the CPP-QPP, 11 per cent.

In total then, fixed savings for government or employer pension schemes amounted to 54.2 per cent of the adjusted net personal savings in 1976. Thus, in 1976, approximately 46 per cent of the flow of total adjusted net savings was left to the discretion of the individual. In Table 8 we can observe that a large proportion of the gross savings of individuals and unincorporated businesses was directed towards the chartered banks and the near banks throughout the period 1975 to 1977. Deposits in the banks and near banks represented in 1977 just over 74 per cent of total gross savings, or just under 52 per cent of total net lending by individuals and unincorporated businesses. Canada Savings Bonds are also an important medium for savings. Contributions to life insurance plans and pension plans amounted to just under 33 per cent of total gross savings in 1977, and just under 23 per cent of total net lending.

For the purpose of this study, it is interesting to note the dramatic increase in the personal savings rate over the past decade. In 1968, and indeed until 1971, the personal savings rate (net personal savings as a ratio of personal disposable income) averaged between 5.3 and 5.8 per cent. In 1972, mirroring the acceleration in the rate of inflation, (see Table 1) the personal savings rate rose, peaking in 1975 when the consumer price index rose 10.9 per cent. The savings rate has remained at a very high level since 1975.

Several factors could account for the parallel increases in the personal savings rate and the rate of inflation. Changes in the tax system which provided a role for registered retirement savings plan contributed to the sharp increase in the personal savings rate since 1971. But also of importance has been the impact of higher rates of inflation on the long run savings and wealth accumulation decisions of families. That is, in the 1970s, the coincidence of higher rates of inflation with the generally higher rates of unemployment created a mood of extreme uncertainty. This apparently resulted in many more individuals deciding to save for the so-called rainy day.

Indeed, the importance of the latter two factors - the uncertainty effect and the declining wealth effects of higher rates of inflation - in generating higher levels of personal savings and savings rates, has been empirically documented in the study by David Howard, published in the November 1978 issue of The Review of Economics and Statistics. According to Howard, (Page 554) "this paper has detected several ways in which inflation influences the personal savings rate. First, and most generally, there is the indirect effect by way of its influence on the real value of net liquid assets...The results reported in this paper on the relation between inflation and personal saving indicate that inflation tends to encourage personal saving, both through direct uncertainty effects and through indirect channels, such as the real balance effect. The results reported here indicate as well that inflation is not the only variable that affects saving behaviour through uncertainty effects, since in Canada, Germany, the United Kingdom, and the United States, unemployment variables also have positive effects on personal savings."

Howard's findings, as well as the clear parallel movements between inflation rates and personal savings rates, suggest some scope for a life cycle explanation of savings decisions when a large proportion of total net personal savings is left to the discretion of individuals. Individuals do appear to alter their savings decisions relative to their inflation fears, as well as relative to their retirement needs. This premise is postulated by the life-cycle model, a model that we will discuss in detail in Section 5 of this study.

In effect then, adjustments to inflation in terms of savings for retirement income do appear to be made by individuals, and this is another critical factor to be kept in mind when evaluating the various proposals relating to indexation that have been put forth.

Table 1
Selected Savings and Personal Tax Ratios, 1968-1977

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Rate of inflation	4.0	4.6	3.3	2.9	4.8	7.6	10.8	10.8	7.5	8.0
Personal savings rate	5.6	5.4	5.3	5.8	7.4	9.1	10.0	10.9	10.8	10.7
CPP and QPP contributions/PI	2.0	2.0	2.0	1.8	1.8	1.6	1.7	1.7	1.7	1.7
CPP and QPP contributions/PDT	11.2	10.0	9.1	8.5	8.1	7.7	7.6	7.9	7.8	7.7
PDT/PI	14.8	16.3	17.3	17.6	17.5	17.4	18.1	17.6	18.2	18.2
CPP and QPP receipts/PI	.0	.1	.2	.2	.3	.4	.4	.5	.7	.8
OAS/PI	2.6	2.7	2.8	2.8	2.9	2.9	2.8	2.8	2.8	2.7
OAS/PDT	17.9	16.5	16.1	16.2	16.6	16.6	15.6	15.6	15.2	15.0
CPP and QPP contributions/S	35.0	36.9	36.7	31.4	23.7	18.0	17.0	15.7	16.2	16.2
PI/GNP	76.7	77.4	77.8	78.4	79.6	79.6	79.2	82.4	81.6	82.0
Wages, salaries, etc./PI	69.0	69.7	70.1	69.6	68.7	68.2	68.5	68.6	69.3	69.7

Note CPI - Consumer Price Index
PDT - Personal Direct Taxes
PI - Personal Income

All the figures represent either ratios (in percentage terms), or percentage rates of change.

Source Statistics Canada, National Income and Expenditures Accounts, 1963-1977, Cat. 13-201.

Table 2
Proportion of Paid Workers in Labour Force Covered by Pension Plans, by Industry, 1970, 1974, and 1976

Industry	Members in pension plans			Percentage of paid workers in pension plans			Average weekly wages
	1970	1974	1976	1970	1974	1976	1976
	(Number)			(Per cent)			(Dollars)
Agriculture	1,388	1,017	1,194	1.3	1.0	.7	317.12
Mines, quarries, oil wells	80,211	90,525	105,533	66.8	70.5	72.1	241.19
Manufacturing	796,837	909,240	1,011,974	43.2	45.7	48.4	331.02
Construction	107,414	234,982	264,374	23.5	44.3	43.9	262.03
Transportation and communication	337,809	363,928	408,918	49.2	47.5	49.5	226.23
Trade	142,504	196,277	217,234	12.9	14.4	13.7	213.71
Finance, insurance and real estate	149,906	171,619	180,433	44.7	42.8	37.7	160.49
Community, business and personal services	445,158	625,905	615,606	25.9	28.7	25.2	
Public administration	761,109	830,752	1,097,232	98.0	98.0	98.0	228.03(a)
Total	2,822,336	3,424,245	3,902,498	39.2	40.7	38.8	

a The industrial composite wage excludes the public sector.

Source Statistics Canada, Pension Plans in Canada, 1976, Cat. 74-401, p. 23.
Statistics Canada, Canadian Statistical Review, Sept. 1978, p. 54.

Table 3
Pension Benefits Credited in Pre-Retirement Years

	Average labour income per employee (Dollars)	Annual percentage change (Per cent)
1957	2,477	
1967	3,942	7.9
1973	6,242	10.0
1974	7,104	13.8
1975	8,282	16.6
1976	9,512	14.8
1977	10,270	8.0

Benefit payment based on

1.	Average Income 1973-1977	.40 x $8,282 = $3,312/annum
2.	Average Income 1957-1977	.40 x $4,841 = $1,936/annum
3.	Final year Income 1977	.40 x $10,270 = $4,108/annum
4.	Highest Income 1977	.40 x $10,270 = $4,108/annum

Source These figures are calculated from Statistics Canada data on total labour income and total employment. The assumed benefit formula is 2 per cent of earnings for twenty years of service.

Table 4
Pension Plans and Members by Type of Benefit, 1960, 1970, and 1976

Type of benefit	1960				1970				1976			
	Plans		Members		Plans		Members		Plans		Members	
	(Number)	(Per cent)	(Number)	(Per cent)	(Number)	(Per cent)	(Number)	(Per cent)	(Number)	(Per cent)	(Number)	(Per cent)
Unit benefit												
Final earnings	28	.3	10,793	.6	16	.1	5,613	.2	25	.2	6,980	.2
Final average earnings	270	3.0	283,720	15.2	377	2.3	169,798	6.0	413	2.6	126,746	3.2
Average best earnings	117	1.3	632,295	34.0	970	6.0	1,260,917	44.7	1,439	9.2	2,059,489	52.8
Career average	2,370	26.6	468,247	25.1	4,753	29.5	679,631	24.1	4,945	31.6	682,343	17.5
Level percentage of earnings	-	-	-	-	46	.3	2,721	.1	26	.2	748	-
Total	2,785	31.2	1,395,055	74.9	6,162	38.2	2,118,680	75.1	6,848	43.8	2,876,306	73.7
Money purchase	5,392	60.4	242,127	13.0	8,471	52.5	137,680	4.9	7,179	45.9	183,651	4.7
Profit sharing	211	2.4	23,616	1.3	310	1.9	21,374	.8	231	1.5	20,092	.5
Flat benefit	411	4.6	177,059	9.5	742	4.6	424,623	15.0	961	6.2	769,568	19.7
Composite	121	1.4	24,824	1.3	265	1.6	26,221	.9	241	1.5	29,713	.8
Other	-	-	-	-	187	1.2	93,758	3.3	165	1.1	23,168	.6
Total	8,920	100.0	1,862,681	100.0	16,137	100.0	2,822,336	100.0	15,625	100.0	3,902,498	100.0

Source Statistics Canada, Pension Plans in Canada, 1976, Cat. 74-401, p. 23.

Table 5
Benefit Rates in Unit Benefit Plans with Membership by Earnings Base, 1965, 1970, 1974, and 1976

Benefit rate group (Per cent)	1965 (Per cent)	1970 (Per cent)	1974 (Per cent)	1976 (Number)	1976 (Per cent)
	Members in final, final average, and average best earnings plans				
Less than 1	.5	.6	.7	13,886	.6
1 - 1.24	7.6	9.5	6.8	75,376	3.4
1.25 - 1.49	5.3	3.8	1.7	81,330	3.7
1.50 - 1.74	11.0	6.2	8.9	122,054	5.6
1.75 - 1.99	.7	1.2	1.9	44,473	2.0
2 and over	65.8	73.2	74.8	1,742,720	79.6
Variable by sex	9.1	.2	.2	2,923	.1
Other	-	5.3	5.0	109,442	5.0
Total	100.0	100.0	100.0	2,192,204	100.0
	Members in career average earnings plans				
Less than 1	2.8	.5	1.6	32,765	4.8
1 - 1.24	6.8	6.6	6.2	22,813	3.3
1.25 - 1.49	3.6	1.7	.9	6,771	1.0
1.50 - 1.74	31.2	19.4	14.5	92,321	13.5
1.75 - 1.99	15.6	10.7	9.2	61,617	9.0
2 and over	29.5	49.0	60.3	423,508	62.1
Variable by sex	10.5	.4	.2	1,099	.2
Other	-	11.7	7.1	41,449	6.1
Total	100.0	100.0	100.0	682,343	100.0
	Total				
Less than 1	1.4	.6	1.0	46,651	1.6
1 - 1.24	7.3	8.5	6.7	98,189	3.4
1.25 - 1.49	4.7	3.1	1.5	88,101	3.1
1.50 - 1.74	18.5	10.5	10.3	214,375	7.5
1.75 - 1.99	6.2	4.2	3.9	106,090	3.7
2 and over	52.3	65.4	70.8	2,166,228	75.4
Variable by sex	9.6	.3	.2	4,022	.1
Other	-	7.4	5.6	150,891	5.2
Total	100.0	100.0	100.0	2,874,547	100.0

Source Statistics Canada, Pension Plans in Canada, 1976, Cat. 74-401, p. 40.

Table 6
Benefit Rates in Flat Benefit Plans, 1965, 1970, and 1976

Benefit rate (Monthly pension for each year of credited service)	Members					
	1965		1970		1976	
(Dollars)	(Number)	(Per cent)	(Number)	(Per cent)	(Number)	(Per cent)
0 - 4.99	265,205	80.9	141,581	34.9	85,427	11.4
5.00 - 6.99	5,910	1.8	138,993	34.3	100,994	13.4
7.00 - 7.99	-	-	2,808	.7	18,116	2.4
8.00 - 9.99	-	-	4	-	160,618	21.4
10.00 - 11.99	-	-	191	.1	110,250	14.7
12.00 - 13.99	-	-	-	-	4,770	.6
14.00 - 15.99	-	-	-	-	158,229	21.1
16.00 - 17.99	-	-	2	-	7,552	1.0
18.00 - 19.99	-	-	-	-	-	-
20.00 and over	-	-	158	-	2,094	.3
Variable by sex	-	-	2,073	.5	2,149	.3
Other	56,817	17.3	119,658	29.5	100,904	13.4
Total	327,932	100.0	405,468	100.0	751,103	100.0

Source Statistics Canada, Pension Plans in Canada, 1976, Cat. 74-401, p. 42.

Table 7
Employer Contributions to Private Pension Plans as a Percentage of Total Labour Compensation in Canada, Selected Industries and Periods, 1970-1975

	(Per cent)
Manufacturing (1971)	2.5
Mines, quarries, and oil wells (1972)	2.6
Finance, insurance, and real estate (1970)	3.6
Transportation, communications, and other utilities (1970)	4.5
Trade (1972)	1.5
Education, libraries, and museums (1974)	
Teaching staff	5.1
Non-teaching staff	2.3
Services to business management (1975)	2.0

Source Statistics Canada, Labour Costs in Canada, Cat. 72-610 to 72-617.

3. INFLATION: SOME IMPORTANT PRINCIPLES

a) The Neutrality of Inflation - The Macro-economic Perspective

Conventional economic models usually postulate that, over a long enough time interval, the pace and pattern of real economic activity are independent of the rate of inflation. That is, over a sufficiently long time period, the prices of all goods or services produced in an economy will increase proportionately, money wages will escalate at the sum of the average rate of inflation and prevailing labour productivity growth, while other factor incomes - interest payments, dividends, rents, and profits - will increase at the same rate as total labour income.

Thus, in a mythical long-run stationary state economy, inflation remains only a monetary phenomenon. Monetary policy and the resulting inflation are neutral for the economy. Both money and inflation remain a veil to the real economy; real economic growth remains separated from the rate of inflation - and is solely dependent upon the rate of growth of technical progress and the labour force. Real economic decisions are affected only by real economic factors, such as real wages, real interest rates, real savings, and investment decisions.

This classical dichotomy between money-induced inflation and the real economy extends very neatly into the financial markets as well. That is, if the prices of all assets and liabilities change in the same proportion, then the change in the general level of prices has no financial impact as well. Everybody's real financial position would remain static as long as real economic growth was steady and the rate of inflation itself was perfectly reflected in the prices of all financial assets and liabilities. Thus, in the classical stationary state, the

market system automatically works as an indexer for goods, services, assets, and liabilities to compensate for inflation movements.

Yet most laymen will maintain correctly that the real returns to financial assets - the important factor in pension fund calculations - are affected by inflation, even over longer intervals of time. Moreover, the layman will often state that the rates of inflation of different commodities or services that are purchased do not converge in a short period of time.

The sensible layman will point out that non-neutrality takes several directions. On the one hand, over a relevant planning horizon(2), it seems absurd to claim that the rates of change in the prices of different commodities or services are uniform. Indeed, from the budgeting perspective, the public points to many non-uniform examples since 1973, particularly energy, food, and real estate prices.(3) As well, savings which are accumulated in financial assets, such as fixed income bonds, and which are not continuously turned over, suffer capital losses when inflation accelerates and experience capital gains when inflation decelerates.

Thus, it is not surprising that the layman finds it difficult to accept the appropriateness of the long-run inflation neutrality argument. Economists often seem to argue that an individual should be completely indifferent between an 8 per cent rate of inflation and/or a 2 per cent rate of inflation, as long as that individual's money earnings are advancing faster than the pace of inflation and savings are earning a positive real return. To restate this proposition in a more rigorous manner, it is assumed that individuals should be indifferent to inflation as long as it is correctly anticipated and alternatives are available for protecting purchasing power against the expected rate of inflation.

As noted, non-economists are understandably impatient with this argument for a variety of reasons. Nevertheless, part of the difference in interpretation by non-economists relates to how long a time horizon is taken up with the "long-run" solution. We have sympathy for the practical problems which must be faced in the real world of variable rates of inflation, capital losses, and limited financial instruments available to protect savings. Thus, while in theory the position that over a sufficiently long time period inflation is neutral is irrefutable, in practice it is not terribly useful to policy-makers.

Associated with the traditional economic theory that inflation is neutral over the long run is another argument that postulates that in the long run, inflation is a monetary phenomenon. That is, the rate of inflation is determined by the rate of expansion of the money supply over and above the real growth of the economy. In the long run the real growth of the economy, as we have noted above, is independent of the rate of growth of the money supply; however, neoclassical economists do

admit that in the short run the real growth rate of the economy can be influenced to a rather dramatic degree by the growth of the money supply. Thus, neoclassical economists admit that in the short run there can be some trade-off between the rate of inflation and the level of unemployment, but in the long run, no such trade-off can exist.

The implication of this is that over a short period of time, if the government desires to reduce the level of unemployment below the so-called "natural rate,"(4) it can do so temporarily through an expansion of the money supply beyond the rate necessary to maintain price stability. However, as a consequence of this policy move, the rate of inflation will begin to increase and over time, if the government insists upon keeping the unemployment rate below the natural rate, it will be forced into ever-increasing expansion of the money supply, accompanied by accelerating rates of inflation. Eventually the government would have to abandon its policy, the unemployment rate would return to the natural position, but the resulting equilibrium level of inflation would be much higher than the initial equilibrium rate. Hence, in this particular example, the main result of effecting a temporarily lower unemployment rate is a higher, but eventually stable, rate of inflation.

The previous discussion on the neutrality of inflation suggested that individuals should be indifferent between different rates of inflation, as long as they are stable over time. However, this example illustrates that, while it is possible to have different stable rates of inflation at different points of time, during transitionary periods the rates of inflation can increase - and the consequences of this acceleration are rather dramatic for debt instruments. While the rate of interest will tend to increase to reflect the higher rates of inflation, the yields on old debt will rise only as the value of that debt declines.

Hence, in this example, when the rate of inflation increases from one level to a higher and eventually stable level, holders of old debt will suffer a rather dramatic capital loss during the transition period - and as well in equilibrium. Thus, while individuals should be indifferent between two different but stable rates of inflation, they cannot be indifferent to two different but stable rates of inflation if one follows upon another as a result of government policies. The possibility of these so-called equilibrium rates of inflation rising over time is quite likely, and as we note in the following section, this appears to have been the case in Canada and in the United States.

Returning to the proposition that the rate of inflation in the long run is determined by the rate of expansion of the money supply, there are the associated problems that are created by external shocks - such as the OPEC price increases, agricultural supply shortages, etc. These external, non-monetary events can result in a boost in the national rate of inflation; as well, such shocks can provide deflationary real economic pressures leading to higher levels of unemployment. In the absence of any monetary policy changes, such as money supply increases to

validate the higher inflation rates, the unemployment rate would rise and eventually this would bring about a decline in the rate of inflation back to the pre-shock equilibrium level.

But when the central bank validates the higher shock-induced rate of inflation in order to minimize the employment losses, one could argue that there is a social responsibility on the part of the government to assist also those individuals who are hurt by the higher rate of inflation.

In effect, in circumstances where external shocks suddenly increase the rate of inflation, and that higher level of inflation is sustained through public actions, government policies assist some individuals who would otherwise be unemployed - but at the cost of hurting others who might be living off fixed incomes, most notably pensioners or their dependants. While the validation of the higher inflation rate might stabilize that higher pace to become the new equilibrium rate, it clearly has negative consequences on the financial market and holders of debt instruments. Thus, there appears to be a case here which justifies a role for government involvement in the indexation of post-retirement pensions and assisting private companies to offset the capital losses incurred by their pension funds, stemming from the increase in the equilibrium rate of inflation. In essence, if the higher rate of inflation is government-induced, then governments should compensate the losers - in this case, recipients of fixed incomes.

There also appears to be some evidence, based on cross-section international inflation comparisons, that higher average rates of inflation are associated with greater inflation variability. Since greater variability can be translated into greater uncertainty, this has a negative effect of increasing the average errors involved in short-term inflation projection. As Edward Foster has noted, "if higher rates of inflation mean more variable rates, anticipation can never catch up; the average error in anticipation will increase and so, barring costly changes in contracts, must the average extent to which income and wealth are being redistributed by unanticipated changes in inflation."(page 396)

Foster provides some corroborative evidence to support the contention that a distinct correlation exists between inflation rates and the variability of inflation among twenty-three industrial countries. Among the evidence cited are the statistics summarized in Table 9.

The greater variability of inflation and higher rates of inflation will result in greater risks being associated with the holding of debt instruments and equities, and hence will tend to lower the real rate of return on these instruments. Moreover, in the short term, the greater variability will tend to have depressing impacts on investment spending and consumer spending and will, therefore, generate some short-term deflationary effects on the economy. In effect, the validation of higher

rates of inflation brought about by external shocks or attempts to buy some lower levels of unemployment in the short term, only at the expense of a resulting higher equilibrium rate of inflation, will have some rather important non-neutral consequences for the economy. Thus, the rather straightforward argument that an individual should be indifferent between two different rates of inflation does not hold up when one considers how the economic system moves from one equilibrium rate of inflation to another, and when one considers that there is a large stock of debt instruments outstanding in the economic system which were originally issued at a variety of different inflation rates.

b) Measurement and Stability of Inflation

There is the additional important concern about what particular index should be used to measure the rate of inflation.

It is quite possible that different rates of inflation may result from the use of the different price indexes and, indeed, that the rates of inflation which may be pertinent to one group may not be applicable to another. This results from the fact that the spending patterns of individuals, families, businesses, and governments are not the same, while the composition of goods and services used in the construction of the most common price indexes also can differ dramatically.

For example, it has generally been assumed that, if a separate consumer price index were to be constructed for low income families, the recorded rates of inflation experienced by low income families would have been significantly higher than the rate of inflation experienced by middle class families over the past five-year period in Canada. In fact, such an exercise was conducted recently by Statistics Canada and reported in its April 1978, Canadian Statistical Review. This article notes that although the present consumer price index (CPI) is most applicable to middle income families, the rates of inflation generated by this index were almost identical to the rate recorded by a revised CPI based on the spending patterns of low income families in Canada. Indeed, over the period June 1973 to June 1977, the consumer price index for the official target group recorded an average annual increase of 9.3 per cent, while the consumer price index for low income families registered an average annual increase of only 9 per cent.

This similarity in the movement of the two price indexes reflected the fact that, "over the period as a whole, food prices rose more than other prices; this, other things being equal, would result in a higher all-item series for the low income group which spends relatively more on food than the official target group. However, the impact of food was offset by the fact that the price increase for shelter was higher for the target group than for the low income families. This in turn results from the situation in which (a) the price of home ownership has been escalating much faster than that of tenancy, and (b) home ownership is

more important to the target group than tenancy and vice-versa for low income families."(Page 11)

This exercise suggests that although the consumer price index is geared to a specific group in Canada and not generally applicable, the errors that result from using the rates of inflation as measured by the consumer price index for other demographic groups are not likely to be serious, even over long periods of time.(5)

While the results of the study by Statistics Canada tend to be reassuring, at least with regard to the validity of the consumer price index for various demographic groups, this does not mean that the consumer price index is a relevant index for other sectors - the business sector, the government sector, and within the business community for individual business firms. For example, if one compares the movements of the consumer price index and the GNE (Gross National Expenditure) price deflator since 1971, one will find both a sharper acceleration in the rate of inflation, as measured by the GNE price deflator, with the rate of inflation peaking at just under 15 per cent in 1974 and a correspondingly sharper deceleration of the rate of inflation, according to this index. Over the entire 1971 to 1977 period,the GNE price deflator has increased at an average annual rate of 8 per cent. This, compared to an average annual rate of 7 per cent of the consumer price index and the cumulative increase for the GNE deflator, was just under 71 per cent, as compared to just under 61 per cent increase for the consumer price index. Hence, over a relatively short period of time there are rather large differences that result in the overall rates of inflation, as measured by the consumer price index and the GNE price deflator.

Furthermore, there are some problems in determining whether the rate of inflation actually peaked recently in Canada, and whether or not there is a distinct downward trend in the rate of inflation at present. The trend of inflation again is important for pension fund managers who need to forecast future movements in debt instrument yields and equity prices, and as well for the use of the excess interest model.

The figures in Table 10 include two other price indexes, in addition to changes in the consumer price index and the GNE price deflator. The rationale for the two other indexes presented in Table 10 has been provided by Mr. A. Meguerditchian, the head of the analysis section of the GNP division of Statistics Canada in his article in the April 1976 issue of The Canadian Statistical Review.

> "The rapid price increases of the last three years have obviously been an international phenomenon, a fact which is frequently alluded to but which appears to have received little quantitative analysis in terms of its effects on the measurement of Canadian prices. However, given the exceptionally high rates of change in foreign sector prices in the past few years, and given the importance of external trade to the Canadian economy, it is essential

that export prices be taken into account when increases in the GNP index are analyzed...When measures of demand prices such as the final domestic demand deflator and the consumer price index are considered, it is often important to determine how much of a given price increase is due to Canadian production prices and how much import prices." (Page 5)

Consequently, the price index entitled GNE ex exports attempts to eliminate the impact of foreign pressures on the GNE price deflator. Since exports are sold on international markets, the prices of the exports are most sensitive to these international pressures. The price index entitled domestic demand is equal to the GNE ex exports deflator plus imports. This index takes into account the effect of domestic production, as well as imports on the prices of goods and services purchased by Canadians.

In comparing the movements of these various indexes, we find that for the CPI, the last peak in rate of inflation occurred in 1974-75, for the GNE price deflator in 1974, for the GNE ex exports in 1976, and for the domestic demand deflator, in 1974. Moreover, with the exception of the consumer price index, the remaining three display a downward trend in the rate of inflation, at least between 1976 and 1977. The rate of inflation in 1977 ranges between 6.1 per cent and 8 per cent. Hence, although there is much discussion about the rate of inflation, there are obviously several measures of the rate of inflation, each of which is appropriate for a specific group or circumstance. The various measures that can be used to calculate rates of inflation do experience different movements over time.

Furthermore, most indexes are assumed to overestimate somewhat the true pace of inflation because of quality improvements which cannot be captured completely in the price series. (For example, consider the quality improvements in automobiles, medical services, transportation systems, etc. that have emerged over the past quarter-century. In a nutshell, the commodity or service base is never completely identical in future periods to what it was in the past.)(6) In addition, the periodic revisions in the weights used in the construction of the various indexes - revisions that are made necessary because of different relative price movements, as well as changing composition of expenditures - also result in some changes in the rates of inflation. For example, Ryten and Wells, in their article in the August 1975 issue of The Canadian Statistical Review, compared the growth rates of real GNP and implicit price deflator using the GNE deflator, based on the old 1961 weights and the new 1971 weights. Over the period 1971 to 1974, they found that the new 1971 weights resulted in a reduction in the average annual growth rate in real GNP of 2/10 of 1 per cent per year, or a cumulative reduction of 7/10 of 1 per cent in the overall growth rate. In terms of the rate of inflation, as measured by movements in the GNE price deflator, the new 1971 weights resulted in an increase of 3/10 of 1 per cent in the average annual rate of inflation between 1971 and

1974. This was a cumulative increase of nearly one percentage point over that period, as compared to the rates of inflation using the 1961 weights. Obviously then, one must be very careful in the selection of a price index and the use of this price index as it relates to the whole issue of indexing post-retirement pensions.

As a footnote to this section, we suggest that CPI still appears to be the most appropriate index to be used to determine the degree of escalation of post-retirement incomes, as this index measures the actual price increases faced by individuals. While the CPI represents an appropriate price series from the perspective of the individual, from the firms' point of view, the cost of living changes may or may not be identically mirrored in rising selling prices for its commodities or services.

c) Inflation and Market Rates of Return

(i) Expected and Unexpected Inflation, Anticipated and Unanticipated Inflation

It is necessary to make a distinction between expected and unexpected inflation and anticipated and unanticipated inflation.(7) Inflationary expectations can be either correct or incorrect. A correctly perceived inflation rate is perfectly expected. For example, if the prevailing 7 1/2 per cent rate of inflation in 1978 rises to 10 per cent by 1979 and 12 1/2 per cent by 1980 and these successive 2 1/2 percentage point increases in the rate of inflation in 1979 and 1980 are correctly perceived or expected, then this should result in a lender demanding compensation for the accelerated price erosion of his capital.

But a path of inflation which is correctly expected may still present problems in that a distinction must be made between the ability or inability of the lender to find a means of protecting his income or wealth position. For example, in the recent period of accelerating inflation, the typical Canadian has had few options for protecting his savings against inflation - although housing prices have tended to exceed the general rates of inflation. But in terms of money market instruments, the rates of return available to small lenders through the banking and financial system have not compensated for expected rates of inflation. An accurate expectation of future inflation need not mean that it is completely anticipated. Indeed it is the frustration of correctly expecting inflationary change but being in no position to anticipate it through adjustments which has a lot to do with the frustrations in our society.

In summary, if the prices of all goods, all services, all assets, and all debts were to move together in the same proportion, the changes in the general level of prices would have no real economic significance. Everybody's real economic income and wealth position would be protected in that the real financial positions would remain static or constant.

Yet since the commodity price changes tend to occur at different rates, and over a practical time horizon, there is no reason why all forms of assets and liabilities should increase in price at the same rate.

(ii) The Classical Relationship between Inflation and Market Rates of Return

Classical economic principles generally state that the real return to different types of investments, both physical and financial, is independent of the pace of inflation. At the core of this hypothesis is the theoretical argument that the nominal return will adjust to changes in inflation so as to maintain the underlying real rate of return. The basic classical proposition relating inflation to its impact on assets is commonly attributed to Irving Fisher who concluded that the nominal interest rate in the capital market fully adjusts to movements in future expected inflation rates. This conclusion remains at the core of much of modern economic analysis today.

This proposition, which is still widely used and accepted in monetary finance, and macro-economic theory, has also been extended to return to equities as well as fixed income securities. At this juncture we will deal with two basic securities in a hypothetical portfolio; securities with a fixed dollar coupon but a variable market price and equities which pay dividends and have a variable market price.

Thus extended into either the bond or common stock market, the original classical principle is that either instrument may be viewed as a hedge against inflation in that the nominal yields will rise in proportion to revisions in inflationary expectations. The respective real rates of return for equities or fixed income bonds will be independent of the expected rate of inflation. There is an important distinction which economists make between expected and unexpected inflation. The former represents correct perception and would indeed immediately impact through lender's and borrower's behaviour in the market-place; the latter would impact on the yield structure, but only with some time delay.

An algebraic and numerical example of the operation of the Fisher principle is included here. If lenders and borrowers hold the same price expectations, then the market or nominal rate of interest (i) will equal the real rate of interest (r) plus the expected annual rate of inflation ($\dot{p}^e$) during the planning horizon.

Thus the Fisher principle holds that in equilibrium:

$$i = r + \dot{p}^e \qquad (1.1)$$

Equation (1.1) can be rewritten to account for a lagged adjustment of nominal yields to expected inflation, where the adjustment factors are said to be greater than zero but less than unity. As well, the princi-

ple can be rephrased in terms of a real after-tax rate of return, where the applicable marginal tax rate (t) is used. Therefore:

$$r\ (1 - t) = i\ (1 - t) - b\ \dot{p}^{e} \qquad (1.2)$$

where (b) represents a coefficient of adjustment. If one assumes instantaneous adjustment, that is b=1, then the nominal rate of interest required to generate the same real after-tax rate of return, regardless of the rate of inflation is:

$$i = r + \frac{(1\ \ )}{(1-t)}\ \dot{p}^{e} \qquad (1.3)$$

In a world of no taxes, and instantaneous adjustment to inflationary expectations, a 1 per cent increase in the rate of expected inflation results in a 100 basis point rise (or 1 percentage point) in the market rate of interest. If expected future inflation rises from 3 per cent to 4 per cent, with the underlying real rate of return remaining at 2 per cent, then the market rate of interest would rise from 5 per cent to 6 per cent.

In a world of taxes, when the level of inflationary expectations rises, the nominal rate of interest must increase more than proportionately. For example, with a marginal tax rate of 50 per cent, the nominal rate of interest in the above example would have to rise by two percentage points.

This key point needs underscoring. The increase in the level of inflationary expectations should, in a fully anticipated way, be followed by a more than proportionate rise in market interest rates.(8) But the essential principle remains intact; financial instruments should be a hedge against inflation in that nominal yields reflect any changes in inflationary expectations. This neutrality only holds in the case of new financial investments. We point out below that the fixed income investments which are held to maturity in a rising inflation environment do not yield the same opportunities.

The application of the Fisher principle to equities follows in a similar fashion. As Zvi Bodie notes in an article in the May 1976 Journal of Finance:

> "Economic theorists have long considered common stocks an inflation hedge in this sense because stocks repesent ownership of physical capital whose real value is assumed to be independent of the rate of inflation. This independence implies that a ceteris paribus change in the rate of inflation should be accompanied by an equal change in the nominal rate of return on equity. Indeed this view is most commonly expressed in somewhat looser terms as a positive correlation between the nominal rate of return on equity and the rate of inflation." (Page 460)

Despite the popular notion of the 1960s that real return to common stocks was protected against inflation, the empirical observation that this has not been the case has been discovered recently in the economic literature. There has been a spate of articles published in leading journals to support the fact that the real value of equities is affected by the rate of inflation. This literature has several dimensions - the theoretical framework and the empirical observations. As noted earlier, classical economic principles imply that the current money value of (unleveraged) equities should rise in proportion to rates of inflation. But a host of institutional and other factors helps explain why equities have not been an effective hedge against inflation. As John Lintner notes in a May 1975 Journal of Finance article, in times of inflation, real return to equity ownership is impaired by

> "specialists - involving such matters as inability to maintain profit margins in the face of rising labour and material costs, the use of fifo instead of lifo accounting methods and the insistence on the use of historical rather than replacement costs for fixed assets both in accounting dogma and tax law - are seriously incomplete (however important they may be in practice). Even if all these impairments of real return in times of inflation were completely eliminated by the use of replacement cost depreciation and lifo accunting for inventories, and even if real profit margins and rates of growth in unit sales are always maintained, a company's relative dependence upon outside financing will necessarily be higher the higher rate of inflation, whether expected or unanticipated. Moreover, this greater relative dependence on outside financing required by an increase in realized inflation during any period will necessarily reduce the value of outstanding equity, and consequently also reduce the real rate of return realized on equities during the period. These results hold whether new equity or added debt is issued to meet the added financing required to maintain real rates of growth in the face of either an unexpected spurt of inflation or higher rate of fully anticipated inflation. These adverse effects of an increase in expected rates of future inflation on equity values and on real holding-period returns during the transition period from one rate of inflation to a higher rate, however, will be greater than those of an equally large increase in unanticipated 'transient' inflation." (Page 269)

Recent empirical finance literature has been quite clear on the point that common stocks have not served as a hedge for inflation for a rather long period of time. Once again Lintner cites his own and other research to back up this point for the U.S. market.

Studies undertaken in Canada appear consistent with the U.S. findings vis-à-vis the negative correlation between inflation and real rates of return to equities. Indeed, in his study Pesando summarized five recent studies which support this empirical conclusion. Needless to

say, the five studies indicate that realized inflation and expected and unexpected inflation depress the real returns to common stocks.

While various studies have demonstrated that equities have not been a good hedge against inflation, particularly in the recent period of accelerating inflation, studies on the adequacy of debt instruments have demonstrated that over the period of slow growth of the rates of inflation, 1959-1971 (see the study by Carr, Pesando, and Smith 1976), nominal yields have increased on about a one-for-one basis with the increase in the expected rate of inflation. The study by Carr et al., however, did not find that the nominal rate of interest increased more than proportionately to the increase in the expected rate of inflation as would be suggested by the Fisher principle in a realm of positive tax rates. There have not been any other studies that examined the relationship between return on debt instruments and inflationary expectations covering the period since 1972 to the present. We would expect that during this period there has been most likely a less than one-for-one increase in the nominal return relative to changes in expected rate of inflation. Most likely the nominal return has lagged behind changes in the expected rate of inflation. Indeed, in the study by Carr et al., there was not an instantaneous adjustment in the nominal interest rate to changes in inflationary expectations, but rather, there was a lagged adjustment that extended upwards to three years.

Furthermore, even if the nominal yields on debt instruments do increase proportionately to changes in the level of inflationary expectations, during periods of accelerating inflation, (or increases in the long-term equilibrium rate of inflation), holders of long-term debt instruments will experience a rather substantial decline in the capital value of these assets. Indeed, they will only be able to earn the higher nominal yields, and thus a constant real rate of return, if they turn over their assets and purchase newly issued debt instruments - but this turnover will result in portfolios actually suffering a capital loss.

Hence, while the Fisher principle is theoretically correct, in practice yields do not adjust instantaneously to changes in inflationary expectations, and moreover, substantial capital losses can occur in the process of rolling over one's assets in order to keep abreast of the higher nominal yields resulting from higher rates of inflation.

There is one further point which requires clarification. The inflation adjustment clearly does not hold well in the short run, particularly when one recognizes the administered nature of short-term interest rates in Canada, and the specialized features of other rates, such as mortgages. While the Fisher principle is perfectly consistent with supply and demand explanations for interest rate movements, active market participants are understandably impatient with explanations that seem to ignore other non-inflation related factors which determine the supply and demand for funds in a particular market.

Thus, for all practical purposes during a short-term transition period, one should expect a rather loose relationship between nominal yields and levels of inflation. Indeed, the experience during the past five to six years has been exactly that, namely, pension fund managers have been unable to earn real rates of return commensurate with the assumptions built into the pension plans and, in many cases they have been unable to earn postive real rates of return.

d) The Winners and Losers from Inflation

It is generally accepted that debtors gain and creditors lose from inflation, since the former group is repaying debts in dollars that have a lower real purchasing power than when the funds were borrowed. It is usually argued that, since government is the largest net debtor in the system, it would be the prime winner when inflation accelerates. On a net basis, individuals tend to be creditors, even taking into account their mortgage debt; consequently, individuals are the principal losers from inflation. When the inflation rate is constant, regardless of the level, and if nominal yields have fully adjusted to the prevailing rate of inflation, then neither creditors nor debtors will lose or gain from that prevailing rate of inflation.(9) The interest payments and the interest returns will reflect fully the depreciation of capital, and thus will adjust so as to ensure that creditors do not experience capital depreciation and debtors do not gain from the depreciation.

Clearly then, the debtor-creditor argument on who gains and who loses from inflation holds only during periods when inflation is either accelerating or decelerating or during periods in which the changes in inflation rates are either unexpected or unanticipated.

In reality, the extent of the gains and losses to various groups and among income classes is hard to measure, particularly when nominal returns adjust quickly to inflation changes. In the government case, inflation affects their debt repayments, and additional revenues would have to be raised in order to pay the higher borrowing costs when inflation accelerates. Business tends to be a net debtor on average - thus, higher borrowing costs may ultimately translate into higher producer prices for goods and services.

Indeed, it is usually thought that in an accelerating inflation environment, when the inflation is largely unexpected, producer prices respond earlier to the new inflation reality than labour costs. This was particularly the case when negotiated labour contracts did not include escalation clauses, and were set on a two-to-three year basis. Once again, it is difficult to draw a definitive conclusion in terms of the winner-loser effect simply based on the fact that business tends to be on average a net debtor, because of the lead-lag relationships in the response to inflation.

Despite the conceptual problems involved in such evaluations, several studies have grappled with the issue. Citing just two of them, the general impression is that individuals at the upper end of the income spectrum, and business, generally appear to lose from higher rates of inflation. Minarik, in a study based on the U.S. 1973 to 1975 experience, published by the Brookings Bulletin, concluded that, "inflation reduces most (of) the real income of the rich; for the bulk of the population, the effects of inflation are modest." (Page 10)

Ironically, that conclusion depends upon an expanded concept of family income. In terms of a standard concept of income, Minarik pointed out that in response to higher rates of inflation, the rich did become somewhat richer and the poor somewhat poorer. "At low income levels, real income is reduced by slightly less than half of 1 per cent, mostly because some transfer payments lag behind prices. At the middle income levels, inflation has very little effect since most income here is in the form of wages and salaries, and home owners benefit from contractually fixed mortgage payments. At the upper income levels, however, income flows are swelled by the rapid rise of interest rates, so these households appear to benefit from inflation by about half of 1 per cent." (Page 8)

But, in terms of a more comprehensive measure of income, which covers standard current cash income of the household as well as other items, such as income in kind, balance sheet changes resulting from depreciation of the cash value of bonds, the lagging of corporate retained earnings and the appreciation in home values and taxes, Minarik discovered rather substantial real income losses from a higher rate of inflation for those families with income in excess of $25,000.

Minarik also verified the common belief that the elderly in the United States are losers when the inflation rate increases. "At low and middle income levels the elderly are more adversely affected by inflation because their income is largely from property. At higher levels most income is from property, regardless of age, so the elderly fare little differently than others." (Page 9) Hence, the wealthy and the aged appear to be the principal losers during a period of accelerating rates of inflation.

Jenkins, in a study on the social rate of return in Canada empirically examined the effects of inflation and taxes on business and government. He discovered that in Canada, higher rates of inflation tend to have a depressing effect both on the social rate of return and on private rates of return to business - and that higher inflation tends to benefit government.

Prior to the introduction of indexation of personal income taxes, individuals also lost out to government through higher rates of inflation; at present, the full extent of the inflation-induced losses to

individuals is minimized in Canada by the indexation of personal income tax exemptions.(10)

But, to the degree that indexation has forced the federal government to incur higher deficits, it might follow that the personal income tax rate could actually be higher than it otherwise would have been to finance the higher deficits. Alternatively, the high deficits could result in a reduced level of government spending. These various other implications for government finance tend to cloud the interpretation of the income distribution effects stemming from the higher rates of inflation and the indexing of personal taxes.

Returning to the business sector, in an accelerating inflationary environment, many companies experience paper profits stemming from the higher value of their inventories. In turn, they pay taxes on these paper profits. In addition, the inability to depreciate their capital investments at the replacement values results in higher tax liabilities for companies and hence, reduced after-tax cash flows. Thus, according to Jenkins, business loses and government gains when inflation accelerates. But, in terms of the income distribution effects on individuals, once again it is difficult to assess the effects, since one cannot easily disaggregate the real losses to business into their constituent elements - higher prices, lower dividends to shareholders, and reduced wage gains to workers.

In conclusion, then, the United States studies imply that high income and elderly individuals are the principal losers from higher rates of inflation. Jenkins stresses that government gains and business loses as a result of inflation in Canada. The elderly in Canada whose sole source of income is OAS and GIS from the federal government, and perhaps income supplements from the provincial governments, are protected from higher rates of inflation, since these benefits are fully indexed, albeit with a time lag. Those who will be adversely affected are the individuals who receive some income from employer-sponsored pension plans that are not fully indexed for inflation and individuals receiving return to capital where the nominal returns fall significantly behind the rate of inflation.

e) Accelerating Inflation Rates, Unfunded Liabilities, and Experience Deficiencies

As we pointed out in the introduction to this study, accelerating rates of inflation during the early and mid-1970s have caused serious problems for many private pension funds. The higher rates of inflation, and the commensurately higher rates of increases in wages and salaries, have increased the future liabilities for many of these pension plans. At the same time, the inability of nominal returns to keep abreast of high rates of inflation has limited the ability of many funds to earn a real rate of return adequate to cover the future liabilities. In turn, the value of old outstanding bonds declined during this period as well.

Hence, many funds found themselves with rather substantial unfunded liabilities and large experience deficiencies.

The Financial Executives Institute of Canada surveyed approximately one-third of the pension funds covered by Statistics Canada. The FEI study was based on 198 responding corporations with a total net capital employed of $66.5 billion in the latest fiscal year. An important conclusion of the study was the following:

> "Approximately 70 per cent of the respondents had plans in a deficit position. The rate of change in the dollar magnitude of unfunded past service liabilities and experience deficiencies continues to grow at an alarming pace. Unfunded liabilities and experience deficiencies were 5.7 per cent of net capital employed at latest fiscal year ends. Wage and salary escalation in excess of actuarial assumptions, followed by performance of capital markets and early retirement experience were held to be the significant factors leading to deficit positions."

Nevertheless, their conclusion may be overstated in the sense that the scientific value of the survey is somewhat limited when it refers to experience deficiencies or unfunded liabilties. In part, the validity of the survey is questionable because of the no response aspect to these questions. Thus according to the FEI figures, 25.5 per cent of the plans reported that they had unfunded liabilities; most of the others didn't answer the question.

This survey of pension fund performance merits discussion in that it illustrates to some extent the impact of rising inflation on private pension plans. As of March 1976, there were 181 firms covered in the survey, ranging in size from very small firms (under $25 million in net capital employed) to very large firms (over $1 billion in net capital employed). In the latest fiscal year, only a few employers (2.8 per cent) had the market value of their pension funds valued between 40 to 50 per cent of net capital. Most employers (85 per cent) valued their plans at below 30 per cent of their net capital employed.

As Yves Guérard notes in a speech entitled, "Pension Funds and Their Impact on the Direction of the Economy":

> "The FEI Survey covering approximately one-third of the pension plans showed that 70 per cent had a deficit; the deficits amounted to 25 per cent of the assets. Using that percentage means that if the existing funded plans had fully amortized their deficits, aggregate assets would be $50 billion instead of $40 billion."
> (Page 15)

Returning to some of the specifics of that survey, the statistics in Table 12 relate the book value of pension funds to the market value of the funds. Note that the book value exceeded the market value in

1976 in 42.2 per cent of the cases, whereas in 1970, the book value exceeded the market value in 62.3 per cent of the cases. In other words, for a large number of the plans, in 1976 the book valuation of funds' portfolios was above the actual market value of the portfolios. This, of course, is consistent with the accelerated inflationary environment which existed between 1970 and 1976.

In Table 13 we set out the survey's estimates of unfunded past service liabilities as a percentage of pension fund assets at market value. It should be noted that unfunded liabilities for service costs must be funded over periods, not on a yearly basis.(11) In 1970, 74.5 per cent of the plans in existence either had no unfunded liability, or there was no response to the survey question. In 1976, the latest fiscal year for which data are available, only 40.3 per cent of the plans were in the same situation. Thus, it is not surprising that unfunded liabilities as a percentage of pension fund assets have increased dramatically and, indeed, Table 13 supports this view. For example, the number and percentage of firms with a ratio of unfunded liabilities to the market value of the fund in excess of 50 per cent, has risen from 4.1 per cent in 1970 to 7.5 per cent in 1976.

The figures in Table 14 illustrate a distinction between experience deficiencies and unfunded liabilities. Pesando and Rea note in their book,

> "Experience deficiencies arise, in effect, when the actuarial valuation of a pension plan indicates that the assumptions on which the employer's contributions were based were not borne out...During the recent period of accelerating inflation in Canada, bond prices have declined and the stock market has generally performed poorly. Thus, one would predict that all trusteed pension plans are likely to be characterized by experience deficiencies which reflect, in essence, the poor performance of their investment portfolios." (Page 34)

According to the FEI survey, in the latest fiscal year, 120 out of the 198 surveyed firms either cited no experience deficiencies or did not answer the question. Also 75 out of the 198 firms either cited no unfunded liabilities or did not answer the question.

In summary, in view of the many empirical studies which suggest that inflation tends to depress the real rates of return to equities, and which indicate as well that inflationary expectations are imputed in proportion to the nominal yields on fixed income securities, it is not surprising that private pension fund portfolios which are composed primarily of these types of instruments should see their experience deficiencies rise.

Existence of unfunded liabilities, however, need not necessarily be considered a bad thing. Indeed, it might be rather fortuitous for a company to have unfunded liabilities. The Pension Benefits Act provided

rather strict rules for companies to cover their unfunded liabilities within a given period of time. If companies having unfunded liabilities are able to earn a higher rate of return on the funds that they in effect are borrowing from the pension funds by investing them in physical assets to be used by the company, then the company, and likely the employees, will be better off in the long term. Obviously, if funds used by the firm that would have otherwise been put into the pension fund earn a lower rate of return, then the company and, most likely the employees, will be worse off over time.

Table 8
Distribution of Financial Acquisitions of Individuals and Unincorporated Businesses, 1975-1977

	1975	1976	1977
		(Per cent)	
Ratio to gross savings			
Currency and bank deposits	43.4	44.2	36.4
Deposits in other institutions	29.7	32.0	37.8
Canada savings bonds	14.8	3.7	7.8
Life insurance and pensions	29.2	31.2	32.6
Trusteed pension plans	16.5	19.5	20.1
Ratio to net lending			
Currency and bank deposits	35.1	33.4	25.3
Deposits in other institutions	24.0	24.1	26.3
Canada savings bonds	12.0	2.8	5.5
Life insurance and pensions	23.6	23.5	22.7
Trusteed pension plans	13.3	14.7	14.0

Source Statistics Canada, Financial Flow Accounts, Second Quarter 1978, Cat. 13-002.

Table 9
Simple Correlation Coefficients Between Average Rate of Inflation and Variability in Rate of Inflation, 23 Advanced Economies

	1954-1975	1961-1975
	(Per cent)	
23 countries	.93	.93
22 countries (excluding Iceland)	.87	.82
17 countries	.86	.79
12 countries	.86	.76

Note Computed from consumer price index recorded in International Financial Statistics, various years.

Source Edward Foster, "The Variability of Inflation," Review of Economics and Statistics, Vol. LX, No. 3, August, 1978, p. 349.

Table 10
Canadian Inflation Trends, 1971-1977 - Annual Percentage Rates of Change

	CPI	GNE	GNE ex. exports	Domestic demand
			(Per cent)	
1971	2.9	3.2	4.1	3.5
1972	4.8	5.0	5.3	4.8
1973	7.6	9.1	6.7	7.2
1974	10.8	14.9	8.7	11.9
1975	10.8	11.2	10.0	10.9
1976	7.5	9.5	11.4	8.8
1977	8.0	6.5	6.1	7.6
1971-1977	7.0	8.0	7.5	7.7
Cumulative 1971-1977	60.8	70.9	66.0	68.2

Note CPI - Consumer Price Index
GNE - Gross National Expenditure deflator.

Source Department of Finance, Economic Review, April 1978.

Table 11
Selected Price Index Changes in Canada, 1961-1977

	1961-1971	1971-1977		
	Total	Average annual	Total	Average annual
		(Per cent change)		
CPI				
Food	33.5	(2.9)	60.8	(7.0)
Housing	31.3	(2.8)	80.1	(8.8)
Clothing	28.7	(2.6)	41.0	(5.0)
Transportation	29.9	(2.6)	53.3	(6.3)
Health and personal care	42.4	(3.6)	55.0	(6.5)
Recreation and reading	35.7	(3.1)	42.7	(5.2)
Tobacco and alcohol	28.5	(2.5)	43.8	(5.3)
GNE				
Consumer spending	38.1	(3.3)	70.9	(8.0)
Government spending	69.2	(5.4)	91.3	(9.7)
Business	37.6	(3.2)	67.2	(7.6)
Residential construction	45.4	(3.8)	105.3	(10.8)
GNE - exports	41.6	(3.5)	66.0	(7.5)
Domestic demand	38.1	(3.3)	68.2	(7.7)
ISPI				
Food and beverages	22.0	(2.0)	73.9	(8.2)
Leather	30.3	(2.7)	73.2	(8.2)
Textiles	3.5	(.3)	50.4	(6.0)
Rubber and plastic	8.4	(.8)	48.1	(5.8)
Clothing	32.2	(2.8)	67.3	(7.6)
Wood	45.3	(3.8)	88.5	(9.5)
Paper	18.3	(1.7)	93.5	(9.9)
Metal fabrication	24.7	(2.2)	72.0	(8.1)
Machinery	n/a	n/a	58.7	(6.8)
Transportation equipment	7.0	(.7)	22.5	(2.9)
Primary metals	32.3	(2.8)	90.5	(9.6)
Electrical products	12.0	(1.1)	47.2	(5.7)
Petroleum and coal	13.9	(1.3)	135.3	(13.0)
Chemical	2.6	(.3)	75.9	(8.4)

Note CPI - Consumer Price Index
GNE - Gross National Expenditure deflator
ISPI - Industrial Selling Price Index

Sources CPI, GNE - Department of Finance, Economic Review, April 1978.
ISPI - Statistics Canada, Canadian Statistical Review, Cat. 11-003, April 1973, April 1978.

Table 12
Book Value of Pension Fund as Percentage of Market Value

Range of book as percentage of market	1976 Fiscal year		1970 Fiscal year	
	(Number)	(Per cent)	(Number)	(Per cent)
75 and under	2	1.2	-	-
75.1 to 90	11	6.6	7	6.1
90.1 to 100	83	50.0	36	31.6
100.1 to 110	68	41.0	53	46.5
over 110	2	1.2	18	15.8
Total	166	100.0	114	100.0
Not given	32		84	

Source Financial Executives Institute of Canada, Report on Survey of Pension Plans in Canada, March 1978, p. 60.

Table 13
Unfunded Past Service Liabilities as Percentage of Pension Fund Assets at Market Value

Range of unfunded liabilities as percentage of pension fund assets	Fiscal years			
	Latest		1970	
	(Number)	(Per cent)	(Number)	(Per cent)
0 and not given	75	40.3	143	74.5
1 to 9.9	35	18.8	17	8.9
10 to 19.9	21	11.3	8	4.2
20 to 29.9	17	9.1	5	2.6
30 to 39.9	12	6.5	7	3.6
40 to 49.9	12	6.5	4	2.1
Over 50	14	7.5	8	4.1
Total	186	100.0	192	100.0

Source Financial Executives Institute of Canada, Report on Survey of Pension Plans in Canada, March 1978, p. 63.

Table 14
Total Experience Deficiency and Total Unfunded Liability as Percentage of Total Value of Pension Funds at Latest Actuarial Valuation Date

Range of percentage to pension fund	Respondents indicating			
	Experience deficiency		Unfunded liability	
	(Number)	(Per cent)	(Number)	(Per cent)
0 and not given	120	60.6	75	37.9
.1 to 4.9	27	13.6	19	9.6
5.0 to 9.9	17	8.6	16	8.1
10.0 to 19.9	21	10.6	26	13.1
20.0 to 29.9	10	5.1	19	9.6
30.0 to 39.9	1	.5	16	8.1
Over 40	2	1.0	27	13.6
Total	198	100.0	198	100.0

Source Financial Executives Institute of Canada, Report on Survey of Pension Plans in Canada, March 1978, p. 65.

4. INDEXING AND GOVERNMENT SPENDING

a) Is Indexing Per Se Inflationary?

Indexing is a mechanism to alter automatically contractual arrangements so that they can reflect price changes. Economists and practitioners are divided over the general impact of indexing on the government target for a socially accepted inflation rate. Milton Friedman, widely recognized as a "hawk" on inflation, has been quite vocal in favour of expanding the use of indexing in the United States.

In a debate published by the American Enterprise Institute, Friedman notes:

> "Indexing per se will not, in my opinion, do anything to reduce inflation. But what it will do will be to make it easier to terminate our inflation. It will make it easier by reducing the incentive for governments to inflate and by making withdrawal pains from inflation less severe." (Page 2)

Robert MacIntosh, executive vice-president of the Bank of Nova Scotia, argues that the degree to which the federal public service pension plans are indexed in themselves removes some of the will to fight inflation. In his article entitled "The Great Pension Fund Robbery," MacIntosh notes:

> "The growing inequity of the arrangements which now exist as between the public and private sectors of the economy is, however, only part of the story. What is really disturbing is to assess the

impact of public policy when the federal civil service has managed to insulate itself from inflation. Can it truly be said that the thinking of politicians of the civil service is wholly unaffected by the fact that their own personal involvement with inflation is less than that of the general public?" (Page 258)

To the degree that indexing insulates the various participants from the worst features of inflation, it may be true that indexing represents a "giving in" to the inflation tide. Nevertheless, it is our opinion that indexing itself should be neutral for inflation and that the battle over the inflation issue is best considered from another viewpoint.

By and large the proponents who are in favour of indexing argue the merits of the case on equity grounds. As we note in this report, inflation has been rather non-neutral on private pension benefits since 1970. And if the value or political judgment is made that the real incomes of pensioners are too high, then the inflation process surely cannot be described as the best mechanism for reducing their real incomes.

Albert Fishlow, in an article surveying inflation in Brazil, noted that widespread indexation becomes a necessity in a period of hyper-inflation in order to restore the allocative mechanism to the market system. But he notes as well that "indexing is not a neutral and mechanical instrument. Even if it were not manipulated directly, as it was in Brazil, widespread monetary correction by its very character is not a substitute for government intervention, but a means of it." (Page 279)

He argues that at a very low rate of inflation it is better not to go the indexing route, since it reduces the effectiveness of automatic stabilizers that are built into fiscal systems. In sharp contrast to statements attributed to Milton Friedman on the Brazilian experience, Fishlow argued that "the reduction of inflation in Brazil owes little to indexing, but a great deal both to direct governmental intervention and to successful monetary and fiscal policy." (Page 262) In essence, Fishlow found little in the Brazilian experience of widespread indexation of taxes, financial instruments, exchange rates, and wages to recommend to the United States. In his view inflation was not sufficiently steep to break down the allocative mechanism within U.S. markets.

In a world of relatively mild inflation, James Tobin appears to favour the indexing solution and to support the concept of the U.S. government offering purchasing power bonds to pension funds.

"I have long contended that the government should make low interest bonds of guaranteed purchasing power available for savers and pension funds who wish to avoid the risks of unforeseen inflation. The common objection to escalated bonds is that they would diminish the built-in stability of the system. The stability in question refers to the effects of aggregate real demand, ceteris paribus on

a change in the price level....In the 1970s we know that the government can, if it wishes, control aggregate demand - at any rate, its ability to do so was only trivially affected by the presence or absence of the Pigou effects on part of the government debt."(Pages 16 and 17)

Thus, as is often the case, economists appear divided on the issue of inflation indexing and the attitudes towards the anti-inflation objectives. We tend to favour the view that indexing per se is likely neutral in terms of the battle against inflation, but that pension fund indexing is necessary because of equity principles. We will expand on this latter point in the following sections.

b) Indexing Pension Benefits: An Example of Inflation Indexing and Productivity Indexing

Can the Canadian economy afford private pension fund indexing? This question has been raised recently by several prominent people. Clearly the issue boils down to who or what institution is to pay for indexing and who or what institution will accept the fiscal responsibility. The Barnes (and Crozier) argument is that the economy can afford to pay for indexing, since real economic growth generates a rise in per capita incomes or a growth dividend. That is, the growth of the economy per se would create the resources. Dr. James E. Pesando, who also argues that the economy can afford to index private pensions, argues that the real question relates to the distributive effect.(12)

This section of the report, which considers the links between pension benefits and productivity growth, was stimulated by the Barnes (and Crozier) argument - though the point of departure is much different.

The segment of Canada's population which is retired and receiving a fixed annual pension during a period of zero inflation will find their standard of living declining relative to those individuals active in the labour market. In an expanding econonomy, the rate of growth of production (or output) is usually in excess of the rate of growth of employment. Historically, the difference between these two growth rates has averaged between 2 and 3 per cent per annum. The empirical reality that, on average, real output gains exceed total employment gains is often described as the economic growth dividend, for "normal" economic growth permits the standard of living of Canadians to increase.

In 1966, for example, real labour productivity (calculated as real GNP per employee at 1971 prices) was $10,335. That is, the 7.2 million employed workers in 1966 produced a real GNP of $74.8 billion. By 1977 real GNP had climbed to $122.6 billion, and the employed work-force reached 9.8 million. Thus, average real labour productivity (in 1971 prices) was $12,565 per worker in 1977, 21.5 per cent higher than the recorded 1966 productivity figure.

Stated in another way, real GNP per employee rose 1.8 per cent per annum between 1966 and 1977. This productivity gain permitted "real" per capita income to rise from $3,769 in 1966 to $5,687 in 1977, and also explained the steep gain in real labour income per employee over the same period. Thus, the nearly 2 per cent rise in average labour productivity allowed a 3.1 per cent per annum rise in real per capita income and a 3.9 per cent rise in real average labour income per employee.

If one measures the standard of living changes by per capita output movements, then the improvement in the standard of living far exceeded the gain in productivity, since Canada's population rose at a slower pace than employed workers between 1961 and 1977. Thus the productivity dividend permits an improvement in the standard of living. As well, the productivity dividend makes it easier to introduce generous social welfare programs since the dividend in theory moderates the apparent costs of income distribution to those who see their perceived incomes decline because of such programs.

Turning to Table 15, we note that a pensioner retiring in 1966 with a $2,500 per year "real" pension benefit would have witnessed an average real decline in his or her relative position by 1977 because of the inability to share in the productivity dividend which the economy generated during the retirement years. That is, even if the pension benefit were maintained its real or constant purchasing power (see column 5 of Table 15), the relative purchasing power of the "real" $2,500 would have declined quite sharply against real per capita income or real labour income per employee. In 1966 a $2,500 annual pension represented 66 per cent of average real per capita income and 53.3 per cent of average real labour income per employee. By 1977 the real benefit payment scaled against per capita real income or average labour income per worker declined to 47 per cent and 35 per cent respectively. Thus a constant real cash pension benefit is consistent with the retired sector of our population experiencing a decline in their position relative to other workers.

If the $2,500 benefit in 1966 was set in nominal or money terms, then its real purchasing power would have declined 42 per cent by 1977 (to $1,458 in constant 1971 prices), and the pensioner's relative position would have slipped even further. Indeed, the relative slippage against real per capita income is from a 66 per cent level in 1966 to a 28 per cent level by 1977 - and that slippage has two components - a 19 per cent decline due to lack of productivity indexing, a 29 per cent decline because of no inflation protection.

Since the GNP deflator rose 207.6 per cent over the eleven years 1966 to 1977, the nominal $2,500 pension benefit would have had to climb to $5,190 by 1977. The pensioner is, of course, no better off having the $5,190 benefit payment in 1977 in a world of inflation than having $2,500 in a world of zero inflation.

An adjustment to the pension benefits for productivity gains which the employed sector of the population achieved would have escalated the $2,500 real figure to an amount between $3,000 and $3,800, depending upon which variable was used for the productivity escalation factor - direct labour productivity, real per capita income growth, or real labour income gains. In order for the pension benefits to be fully indexed for purchasing power losses due to inflation and productivity gains, the nominal benefit by 1977 would have had to reach a level between $5,729 and $6,497.

A combined productivity indexing scheme and inflation indexing scheme has an escalation rate equal to the sum of the rate of increase in prices and productivity. In essence, this is equivalent to linking pension benefits in money terms to increases in the money wage level - rather than to price increases alone. An example of the latter empirical fact is set out below.(13)

Between 1966 and 1977, one observes that total wages per worker (other than in construction) rose at an annual rate of 9.9 per cent, while the average increases in the GNP deflator and the consumer price index were 6.9 per cent and 6.1 per cent respectively. Average real wage gains rose either 2.8 per cent per annum or 3.6 per cent per annnum depending upon which price index is used. It is clear that the higher wage gains figure, which is after all the average escalation rate of worker incomes, would insulate the pensioner against the inflation losses and enable the pensioner to share in the productivity growth dividend.

To summarize these main points:

1. In retirement years, those who earn a fixed nominal pension benefit face two forms of purchasing power erosion: a direct loss of purchasing power due to inflation and an indirect decline in their relative share of total output or income because they are not rewarded for productivity improvements which occur in the economy. In pre-retirement years, money wage gains generally approximate the sum of productivity improvements plus inflation.

2. The productivity dividend which society earns is intricately a part of the economic growth process. For example, the Canadian economy generated between 1966 and 1977 a real GNP per employee gain of 1.8 per cent per annum, a real per capita GNP gain of 3.1 per cent per annum, and a real labour income gain of 3.9 per cent per annum. All of these measures illustrate how improvements in the real standard of living and economic growth are part and parcel of the same process.

3. If one assumes that a constant purchasing power pension benefit of $2,500 began in 1966, but no increment in the benefit was provided for productivity gains recorded between 1966 and 1977, then the

effective income claim of that benefit would have declined relative to the real income claims made by wage earners. That is, the distribution of income tilts against the fixed (real) income pensioner because the pension payment does not include some part of the productivity dividend. A $2,500 real benefit in 1966, which was valued at 66 per cent of average real per capita income, would experience an effective decline to 47 per cent of average real per capita income by 1977. A similar contraction in the relative income position occurs if other standards are used, such as real labour income per worker.

4. If pension benefits are not indexed for inflation, then the relative purchasing power erosion of the nominal dollar benefit is even greater. Between 1966 and 1977, for example, the GNP deflator (a broad index of inflation) more than doubled, causing the purchasing power of $2,500 in 1966 to decline to $1,458 by 1977 using 1971 prices. This effect reduces the relative position of the pension benefit to 28 per cent of average real per capita income in 1977 and 20 per cent of average real labour income per worker.

5. A comprehensive benefit index would protect the pensioner not only against inflation losses but would also reward the pensioner for the productivity dividend which other members of society gain. As noted earlier, the proper escalating index would be average movements in money wages rather than inflation. On average, money wages increase at about two percentage points faster than prices, which provide for real wage gains and standard of living improvements.

We chose to highlight the productivity dividend because we feel it is not often recognized as part of the indexing issue. It is a subject of some debate whether a retired employee who earns the productivity dividend during working years should have access to that dividend upon retirement. One could argue, however, that this issue could be a subject for collective bargaining negotiations; or at the individual decision-making tier, could be adjusted for by a higher savings rate.

One writer, Geoffrey Calvert, has used the empirical observations that pensioners' economic needs are lower to argue that the pensioners' benefits should not be fully indexed. The assertion concerning indexing is drawn from a twisting of empirical evidence, which moreover, has little bearing on the indexing issue. Parenthetically, even if Calvert were right that pensioners require less income in real terms because they require fewer amenities in life, it should have no relevance to the issue why a wage-earner's claims against society should take precedence over inflation protection compared with a pensioner's claim.(14)

As well, Calvert supports his argument for the declining real expenditures (or needs) associated with age on their spending on clothing, footwear, insurance, and taxes. But as Pesando and Rea correctly note: (15)

"The apparent decline in certain consumption expenditures of the aged in a sample simply reflects, in all probability, the decline in the incomes of the aged. Further, if one were willing to accept the argument that the real incomes of the aged should be allowed to fall, there is no reason to let the decline be determined arbitrarily by the rate of inflation." (Page 5)

Indeed a pensioner who is fortunate to live long and have his pension indexed for inflation, will find that "unnecessary luxuries" fall beyond his reach because he is not indexed for productivity gains.

In conclusion, it is difficult to argue against the view that the pension income should be protected against inflation, especially in view of the relative position of the pensioner in Canada's income stream. As we noted earlier, a fully inflation-indexed private plan does nothing more than maintain a constant "real claim" in terms of goods and services consumption.

c) Existing Income Distribution in Canada

The importance of indexing of pension benefits stands out even more dramatically when one considers the relationship between the incidence of low income and the age of the head of the households, or of unattached individuals. According to Statistics Canada (Income Distributions by Size in Canada, 1977, Cat. 13-206), Canadians had an average family income level of $19,530 in 1977, while the average income level of unattached individuals was $9,588. Households headed by individuals 65 years of age or over, however, tended to have incomes well below the national average in 1977.

Indeed, in 1977, elderly families headed by individuals 65 years of age or over received 52.4 per cent of the national income average, while the ratio for similar unattached individuals was 53.7 per cent of the national average. In 1977, the average annual industrial wage was $12,500. The families which were headed by males 65 and over received substantially less than this amount in 1977. Thus, 7.6 per cent of such families received a total income amounting to 25 per cent or less of the average national industrial wage, while 37.1 per cent of such families recived 50 per cent or less of the average national industrial wage. Among those families headed by females 65 and over, the corresponding percentages were 27.1 and 72 per cent for 1977. For unattached males 65 and over, 24.3 per cent of these individuals received an income equal to 25 per cent or less of the national average industrial wage, while 66.1 per cent of such individuals received an income equal to 50 per cent or less of the national average industrial wage. Among unattached females 65 years of age or more, the respective proportions were 50.6 and 87.2 per cent.

The figures in Table 17 highlight the Statistics Canada classification of low income cut-off levels for families and unattached individ-

uals in 1977. These figures classify a low income recipient as an unattached individual earning less than $4,446 and living in an urban area with a population of one-half million or more. Similarly, a two-person family which received less than $6,443 in 1977, residing in a large urban area, was also considered to fall below the low income cut-off point. The low income level cut-offs increase with size of family and the size of urban area, reflecting the higher cost of larger families and the higher cost of living associated with larger urban centres.

Using these low income cut-off classifications, as well as data on the demographic and geographic composition of families, Statistics Canada was able to identify the 1977 incidence of low income among families and unattached individuals by age of the head. Among families, with the exception of those headed by individuals 24 years of age or less, the highest incidence of low income (or poverty) was in families headed by someone 65 years of age and over. Indeed, in 1977, 22.3 per cent of families headed by individuals 70 years of age or over received incomes below the low income cut-off point.

Between 1973 and 1977, the incidence of low income tended to decline for all demographic groups, except those headed by individuals 24 years of age and less. Among individuals, the incidence of low income was highest for those above the age of 65, with over 63 per cent of individuals 70 years of age or more identified as falling below the low income cut-off point. Individuals also have witnessed some reduction in the general incidence of low incomes, although the reduction for the aged has not been as dramatic for individuals as it has been for families in Canada.

Despite some recent reduction in the incidence of low income for the aged, they still tend to be over-concentrated at the bottom end of the income ladder. Additionally, the incidence of low income is still extremely high. Hence, if private employment pension benefits are not indexed for inflation, the relative position of the aged could deteriorate further. It is recognized that continued indexing of OAS, CPP, GIS might prevent over time a further erosion in the relative position of many of the aged.

Many pension recipients receive a significant proportion of their retirement income from Old Age Security and Guaranteed Income Supplement payments, and to a lesser extent, payments from the Canada or Quebec Pension Plans. These pension benefits are indexed to inflation, and thus provide some real income protection. Perhaps for this reason the incidence of low income among the aged has declined between 1973 and 1977, though their relative income position has deteriorated since 1973.

The data in Table 19 indicate that the average income of families and unattached individuals increased most slowly for those families headed by an individual 65 and over, and for individuals 65 years of age and over. For such male-head families, average incomes rose by 48.8 per

cent, just slightly ahead of the 42.7 per cent cumulative increase in consumer prices. For males 65 and over who were not part of a family unit, their average incomes rose in line with the increase in the rate of inflation, while individual females 65 and over experienced an increase in average incomes well in excess of the average rate of inflation.

Thus, with the exception of families headed by females 65 and over, the aged were able to at least keep up with the rate of inflation, although they were not able, with the exception of single females 65 and over, to keep up with average income gains of other groups, nor with the increase in average weekly industrial wages and salaries, which rose 55.8 per cent between 1973 and 1977.

These data focus on the real income maintenance role played by the indexing of OAS, GIS, and CPP benefits. The data also demonstrate how the inability of the retired to share in the productivity gains does tend to result over time in a relative decline of the income position of the aged. Both of these facts reinforce the argument supporting pension indexing and, as well, they raise the question of allowing some productivity indexation as well.

d) Government Activity and Income Distribution

One important element in this discussion is the potential impact of these indexing schemes on the federal government budget since many of the schemes involve federal government revenues or expenditures in a direct way. The government sector interacts with the economy in a direct fashion by raising revenues and spending funds. These direct effects set up an indirect chain of events which points to the ultimate incidence of government activities.

(i) The Direct Effect of the Federal Government

The direct impact of the federal government on private activity can be traced via statistics on their revenues and expenditures.

The data presented in Table 20 illustrate the revenue and expenditure patterns in 1977. These national accounts data on the federal government revenues and expenditures include pensions paid to government employees and social security receipts and payments. Of the $35.9 billion in total revenues received by the Government of Canada in the last fiscal year (1977-1978), personal taxes made up $17.2 billion, corporate taxes $5.3 billion, indirect taxes $9.1 billion. Ottawa also earned investment income on assets in the CMHC (the Central Mortgage and Housing Corporation), the Bank of Canada, the Farm Credit Corporation, etc. Tax revenues accounted for about 89 per cent of the bulk of the total revenues.

Federal government expenditures totalled $45.3 billion in the 1977-1978 fiscal year. Of those expenditures, the funds spent on current goods and services ($11.3 billion) and gross capital formation ($1.2 billion) represented real acquisitions on the economic resource base. All of the other federal government expenditures, in one way or another, represented direct transfers of funds ultimately to individuals. For example, the transfer payments to persons include family and youth allowances, veteran pensions, employee pensions, unemployment insurance benefits, and old age security payments.

Transfer payments to other governments involve such programs as medicare, regional economic expansion, post-secondary education grants, hospital insurance payments, etc. Interest on public debt, subsidies, and capital assistance represent transfer payments of a sort.

Viewed as a large intermediary, then, the manner in which the federal government raises tax and non-tax revenues, and the areas in which these funds are spent directly (that is, those individuals who receive the benefits of these expenditures), imply that there is an incidence effect of the existence of government on private incomes available for expenditure.

It is worthwhile to consider what economists view as the incidence of the government sector in order to consider later on who potentially benefits from any federal subsidies towards indexation of private pension benefits. Unfortunately, there is no clear-cut answer to the question of who benefits and gains from the public sector, especially when the question is framed in the context of the pensioner, the worker, the employee, or the firm. On the revenue side there is a problem since there is a difference between the original base at which the tax is levied, and those who ultimately bear the tax. That is, there is some shifting of the burden of taxation among the various participants in the economy when taxes are levied. Thus, it is the final resting place or incidence of the tax which is of importance. A similar observation can be made vis-à-vis the expenditure side.

We are really interested in identifying those individuals who directly gain because of government purchases of goods and services, or because of the transfer payments which are made. Obviously, identifying the direct beneficiaries of federal spending is also a difficult task.

Table 21, taken from a book by Pope and McConnell, indicates the fact that there is no unanimity among economists in identifying theoretically the final resting places of major taxes. The greatest disagreement concerns the corporation income tax, since under the assumption of perfect competition and profit maximization, a firm would have no reason to change its price or production behaviour because of the existence of the corporation income tax. In this scenario, the corporation income tax would be borne completely by the firm's stockholders.

Another point of view is that the tax is borne completely, or in part, by the consumer - as firms may possess some market power which permits a shifting of the tax. Sales or excise taxes are assumed to fall primarily on the consumer of the purchased item, while the personal income tax is assumed to fall on individual income.

There is one further element in the tax incidence question. A tax device is usually described as progressive, proportional, or regressive, depending upon what happens to the marginal income tax rate as the level of income rises. A progressive tax has a rising marginal tax rate with higher incomes, while a regressive tax, on the contrary, indicates a declining marginal tax rate.

Since the personal income tax has a defined progressive rate structure, taxes on income generally are assumed to be progressive. Since the corporation income tax may fall on the higher income owners of capital, some assume that the corporation tax makes the total tax system more progressive. Alternatively, sales taxes and excise taxes, which are likely shifted to the consumer, are usually regarded as regressive in terms of who pays the taxes.

In a similar fashion, transfer payments by governments to specific income groups can be described as having either a progressive, neutral, or regressive income effect. As the Fraser Institute points out, transfer payments can be thought of as negative taxes - and in the main they tend to be regarded as highly progressive.

In 1964, the Royal Commission on Taxation published a study undertaken by Irwin Gillespie on the incidence of federal taxes and public expenditures in 1961. On the expenditure side, he noted that the fiscal system was clearly favourable to lower income earners.

> "As we move up the income scale, expenditure incidence becomes relatively less favourable; and beyond an income of $10,000 (in 1961), the incidence pattern seems to be almost proportional." (Page 153)

On the tax revenue end, he noted that,

> "The distribution of effective tax rates is regressive up to an income level of <u>at least</u> $3,000 and <u>at most</u> $5,000, and progressive beyond....In total, one-third of all families are affected by the regressiveness up to $3,000, while almost two-thirds are affected by the regressiveness if it persists up to an income level of $5,000." (Page 67)

The net fiscal incidence combines the revenue and expenditure effects of the total government sector on family incomes. The net fiscal incidence is the difference between expenditures received and taxes paid by income class. According to this study, in 1961, the existence of the federal government clearly resulted in positive income distribution from

the higher income classes to the lower income classes, with most of the progressivity resulting from the spending front. (See Table 22.)

The Fraser Institute undertook a smaller scale study in 1976 which provided similar conclusions. The Fraser study was carried out with 1975 data, and included the fiscal effects of all levels of government. That study essentially bears out the point raised much earlier by Gillespie. The income tax seems mildly progressive, and other taxes somewhat regressive against income, so that the total government tax system remains almost proportional to income. Progressivism of government occurs primarily via transfer payments, which are steeply progressive. No attempt was made in the Fraser Institute study to distribute non-transfer government expenditures.

That is, since lower income families receive the bulk of the transfer payments from government, their effective net taxes (here defined by subtracting transfer payments from taxes paid) are low. Indeed, for families with $2,500 cash income levels in 1975, their net tax rate was negative (-27.5 per cent).

When taxes and transfer payments were included, the Fraser Institute study noted that the low family income third of the population received 1.9 per cent in a net transfer, while the middle income third paid 27.9 per cent of income, and the high income third paid 74 per cent of their income. (Page 63)

Table 15
The Productivity Dividend and the Relative Value of Pension Benefits, 1966-1977, 1971 Constant Prices

	Average real per capita income	Average real labour income per employee	Average real output per employee	Assumed real pension benefit	Assumed real pension benefits	Selected ratios					
						Real pension benefits-$2,500			Nominal pension benefits-$2,500		
	(1)	(2)	(3)	(4)	(5)	(6)=(4)/(1)	(7)=(4)/(2)	(8)=(4)/(3)	(9)=(5)/(1)	(10)=(5)/(2)	(11)=(5)/(3)
			(Dollars)								
1966	3,769	4,714	10,335	2,500	2,500	.66	.53	.24	.66	.53	.24
1977	5,287	7,180	12,565	2,500	1,458	.47	.35	.19	.28	.20	.12
			(Per cent)								
Annual rate of change 1966-1977	3.1	3.8	1.8	.0	-4.8						

Note The implicit price deflator was used to adjust the nominal labour income figures in column 1 and the nominal pension benefits in column 5.

Source Bank of Canada Review, August, 1978.

Table 16
Indexing Options - Current Prices

	Nominal annual benefit	Indexed only for purchasing power loss	Indexed only for direct productivity dividend	Indexed only for real per capita income gains	Indexed only for real labour income/ employee gains	Combined index for inflation and growth dividend		
						Utilizing direct productivity variable	Utilizing standard of living variable	Utilizing labour income variable
				(Dollars)				
1966	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
1977	2,500	5,190	3,039	3,507	3,807	5,729	6,197	6,497
				(Per cent)				
Annual rate of change 1966-1977		6.9	1.8	3.1	3.9	7.8	8.6	8.1

Table 17
Low Income Cut-Offs of Family Units, 1977

Size of family unit	Size of area of residence			
	500,000 +	100,000-499,999	30,000-99,999	Rural
1 person	4,446	4,161	4,041	3,231
2 persons	6,443	6,034	5,859	4,688
3 persons	8,221	7,700	7,473	5,980
4 persons	9,778	9,156	8,888	7,110
5 persons	10,930	10,233	9,936	7,951
6 persons	11,999	11,235	10,909	8,726
7 persons	13,158	12,316	11,960	9,567

Source Statistics Canada, Income Distributions by Size in Canada, 1977, Cat. 13-206.

Table 18
Incidence of Low Income Among Families and Unattached Individuals by Age of Head, 1973 and 1977
(Estimates based on Revised Low Income Cut-offs)

		1973	1977
		(Per cent)	
Families			
Age of head:	24 or under	15.4	17.1
	25 - 34	12.2	11.4
	35 - 44	13.4	10.1
	45 - 54	10.3	9.1
	55 - 64	13.5	10.2
	65 - 69	22.7	16.3
	70 or over	27.4	22.3
Individuals			
Age:	24 or under	38.4	36.8
	25 - 34	16.6	14.8
	35 - 44	18.2	22.6
	45 - 54	32.4	32.2
	55 - 64	42.6	45.3
	65 - 69	53.8	50.3
	70 or over	69.5	63.2

Source Statistics Canada, Income Distributions by Size in Canada, Preliminary Estimates, 1973 and 1977, Cat. 13-206.

Table 19
Percentage Increase 1973 - 1977 of Average Income of Families and Unattached Individuals by Age and Sex

		1973	1977
		(Per cent)	
Families			
Age of head:	24 or under	58.9	60.6
	25 - 34	56.1	61.8
	35 - 44	61.3	61.4
	45 - 54	62.9	53.7
	55 - 64	61.9	53.3
	65 or over	48.8	35.5
Individuals			
Age:	24 or under	64.0	67.9
	25 - 34	49.4	62.7
	35 - 44	52.0	62.3
	45 - 54	53.4	56.8
	55 - 64	51.4	58.4
	65 or over	42.7	57.1

Source Statistics Canada, Income Distributions by Size in Canada, Preliminary Estimates, 1973 and 1977, Cat. 13-206.

Table 20
Government of Canada Revenues and Expenditures, National Accounts Basis, (a) 1977-1978

	1977-1978 Actual
	(Millions of Dollars)
Revenues	
Direct taxes, persons	17,245
Direct taxes, corporations	5,229
Direct taxes, non-residents	544
Indirect taxes	9,153
Other current transfers from persons	14
Investment income	3,163
Capital consumption allowances	592
Total revenues	35,940
Expenditures	
Current goods and services	11,317
Transfer payments to persons	13,515
Subsidies	2,501
Capital assistance	382
Current transfers to non-residents	700
Interest on the public debt	5,472
Transfers to provinces	9,741
Transfers to local governments	390
Gross capital formation	1,253
Total expenditures	45,271
Surplus or deficit (-)	-9,331

a Government pensions social security receipts and expenditures are included in the national accounts version of federal revenues and expenditures. In the public accounts, such funds are treated as non-budgetary transactions.

Source Budget Speech, November 16, 1978.

Table 21
Probable Incidence of Taxes

Personal income tax	The household or individual upon which it is levied.
Corporation income tax	Disagreement. Some economists feel the firm on which it is levied bears the incidence; others conclude the tax is shifted, wholly or in part, to consumers.
Federal sales and excise taxes	With exceptions, consumers who buy the taxed products.
Provincial sales taxes	Consumers who buy the taxed products.
Property taxes	Owners in the case of land and owner-occupied residence; tenants in the case of rented property; consumers in the case of business property.

Source C.R. McConnell and W.H. Pope, Economics: McGraw-Hill Ryerson Limited, p. 157.

Table 22
Effective Net Fiscal Incidence, 1961(a)

Family income class	Federal level	Provincial and municipal level	Total all levels
(Dollars)		(Per cent)(b)	
Under 2,000	72.0	30.9	102.8
2,000 - 2,999	24.6	15.3	39.9
3,000 - 3,999	9.0	10.1	19.1
4,000 - 4,999	4.9	7.4	12.3
5,000 - 6,999	.8	5.1	5.9
7,000 - 9,999	-1.8	1.8	.0
10,000 and over	-6.0	-3.2	-9.2
Total	4.0	5.1	9.1

a For the Standard Case. Details may not add to totals due to rounding.

b The difference between expenditures received and taxes paid, by income class, is expressed as a percentage of the distribution of "broad income."

Source W.I. Gillespie, "The Incidence of Taxes and Public Expenditures in the Canadian Economy." Study No. 2, Royal Commission on Taxation (September 1964), p. 180.

Table 23
Fixed Income Yields, Inflation, and Indexing Costs of Fixed Income Securities

	Expected inflation= actual inflation	Market bond prices	Fixed coupon	Market yield	Percentage point change in inflation rate	Expected nominal payments at termination	Realized nominal payments	Real rates of return	Expected real payments (at inital prices)	Dollar cost of indexed purchasing power
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(Per cent)		(Dollars		(Per cent)	(Dollars)		(Per cent)	(Dollars)	
Inflation acceleration										
Issue date	7.7	100.0	9.7	9.7	.0	109.70		2.0	102.00	
Maturity	10.0	100.0	9.7	12.0	+2.3		109.70	-2.3	99.70	
Indexed market yields		100.0	12.0	12.0			112.00	2.0	102.00	2.30
Inflation deceleration										
Issue data	7.7	100.0	9.7	9.7	.0	109.7		2.0	102.00	
Maturity	5.4	100.0	9.7	7.4	-2.3		109.70	4.3	104.30	
Indexed market yields		100.0	7.4	7.4			107.40	2.0	102.00	-2.30

5. KEY PRINCIPLES FOR ASSESSING THE VARIOUS INDEXING PROPOSALS

Since a point of departure is usually necessary for analytical purposes, we employ the economist's stylized, perfectly competitive world of individual decision-makers and consumer sovereignty. In a world of perfect markets and long-term saving and spending time horizons, the life-cycle model would suggest that (based on private preferences and lifetime budget/work income constraints) each individual would determine the nature of his retirement package and the levels of voluntary contribution rates during the prospective working years. That is, the replacement ratio (the desired ratio of retirement income to work income) would vary among individuals.

In this stylized world, there are no collective negotiations, no vesting problems, and no indexing problems since in effect all decisions are real decisions. As for the savings to earnings ratios (or the contribution rates) for those workers with a long planning horizon, their contributions would tend to be low during early working years, but rise with age towards a peak somewhat close to retirement.(16)

In such an environment, private institutions may arise to specialize in the provision of scale economies in the pooling and investing of funds. Such economies, in effect, would reduce the average transaction costs of investing. Moreover, one could conceive also of a demand for a government pension initiative if it was felt that the public at large required a minimum level of savings for retirement. Such demands would arise from fears that some short-sighted individuals would not provide for an adequate retirement income or, in some cases, that some persons would underestimate their own life expectancy. Moreover, the enforcement of the contracts entered into between individuals and institutions would require a legal framework, and once again, a pension-savings related role for government would appear.

To extend the above stationary equilibrium model one step further, one can allow for non-uniform rates of inflation over time and for a diversity of risks among the various financial instruments. With greater variability in inflation, there will be greater uncertainty - which has a social cost - and periodic adjustments in inflation expectations and savings and spending allocations would occur. If there were, for example, a permanent increase in the rate of inflation, employed individuals would make the appropriate adjustment in their savings to prevent a decline in their real retirement income. In this world, the inflation jump would be mirrored in nominal returns and the price of financial assets. As long as the individual had a "real" contractual pension commitment and the assets were denominated in real terms, then the inflation change would present few problems for the retired pensioner.

If there were lags in the adjustment process, then an increase in the rate of inflation that persisted over time could generate a decline in the real value of accumulated financial assets. In this case, em-

ployed workers would have to increase their contribution rates to adjust for this loss, but retired individuals could not make an appropriate adjustment. The higher rate of inflation in this environment would be a result of government policy, and some would argue that the government should take the responsibility of maintaining the real value of the pension benefits of retired individuals. If such government actions resulted in higher taxes, it would be possible that employees would change their savings contribution rates.

Within this system, individuals free to select the institution to manage their pension savings in an environment of risk diversity and inflation uncertainty, would be willing to allocate their savings to that security which best matched their preferences for risk and expected returns. Such actions would ensure active competition among the institutions for savings, and in turn would minimize poor management.

In summary, in this somewhat stylized world, we would expect:

1. Some variation in contribution rates in response to the age of the individual;

2. Some variation in the contribution rates in order to compensate for lags resulting from unexpected changes in inflation;

What we actually do observe in the real world is that retirement savings are a result of three tiers of decisions - individual decision-making, collective decision-making (employee-employer negotiated pensions or unilateral employer decision-making) and government decision-making. Individual decision-making is now regarded as supplementary to the two other tiers. That is, if an individual has a publicly available pension (CPP/QPP, OAS), and at the same time a private employment pension, he may base his incremental discretionary savings decision on the adequacy of these two combined sources of retirement income.

Of course, there is uncertainty as to the real value of the first two tiers of retirement savings, and hence one would expect that sudden changes in the inflation rate would have the greatest impact on the third tier of savings, the individual level. The data in Table 1 support this supposition. Obviously, such savings adjustments can occur only for individuals who have adequate levels of income.

Since some individuals do not have a sufficient income flow to enable them to adjust their savings pattern in response to unexpected or unanticipated changes in inflation, then part of the adjustment could also take place at the government tier. Indeed, even in our stylized model set out above, part of the adjustment would occur in the pensions provided by government, most likely under a pay-as-you-go funding arrangement. Since we have postulated that we would expect the bulk of the pension savings adjustments to be made by individuals and to a

lesser extent by government, several questions then arise with regard to employer-sponsored pension plans. The three most critical are:

1. Why did such plans arise since there did not appear to be any explicit need for them?

2. Why doesn't the collective agreement process handle the entire matter of indexing of post-retirement pensions?

3. Who in effect would pay the cost of this indexing if it could be negotiated through the collective agreement process?

Economists argue that if there is an activity, then there must be a demand for the services or goods being provided and as well, there must be an individual or group willing to supply the services or goods. In the case of employer-sponsored pension plans, economists have traditionally argued that there are benefits to both employers and employees for setting up and negotiating such plans. In attempting to apply this proposition to employer-sponsored plans, we were able to detect advantages only for employers. Even in this case the value of these advantages to employers is not likely to be easily measurable.

Employer contributions to a pension fund are appropriately identified as part of the employee compensation bill. Thus, the employer can defer to some extent, given the regulations of the Pensions Benefit Act, part of the company's total labour bill. This deferment may prove to be nothing more than illusionary over a period of time, but at the same time could be significant over a shorter period of accelerating rates of inflation and an increase in the longer term underlying rate of inflation. That is, during the period of the early to mid-1970s when the prevailing rate of inflation appears to have increased, the ability to defer part of the labour cost to some later period may have provided rather important increments to a company's cash flow and enabled some companies to adjust to the accelerating rates of inflation and more unstable general market conditions.

A second advantage which may be conceptually a more permanent and real advantage for employers is that the delayed vesting arrangements might reduce labour turnover for a firm. A lower degree of labour turnover would ensure that a firm would be able to earn an adequate income from the training and investment in the work-force. Pesando and Rea (1976) (page 14) have noted another implication of delayed vesting on the wage-setting process. Delayed vesting, according to Pesando and Rea, can serve as a substitute for wage scales that would have to rise steeply with seniority and skill levels. Alternatively, delayed vesting could be considered as a type of insurance which the firm issues so as to share the cost of the specific manpower training undertaken with the workers. Obviously, these various propositions depend upon workers recognizing the vesting provisions in pension plans and employers not taking advantage of these vesting provisions and firing workers before

their rights in the pension fund are vested. Indeed, there is likely to be a high degree of ignorance on the part of workers with regard to their vesting rights and the advantage of delayed vesting may be more apparent than real in the actual market-place.

While we are able to establish some possible benefits for employers, we found it more difficult to identify advantages to employees from such schemes.

One may suggest that workers might perceive that their lifetime income is generally higher because of the deferment of part of their wage until they retire. Otherwise, the worker should prefer a higher current wage and the ability to manage his own savings rather than run the risk of not receiving full vesting rights and be locked into a scheme that may have its funds poorly managed in relative terms.

Our inability to conceptualize any net positive advantage for the employee provided us with some insights into why contribution rate adjustments to unexpected inflation movements have not generally occurred at the collective decision-making tier. Obviously, it is conceptually possible for employers and employees to negotiate for indexed retirement benefits and to make periodic adjustments in contribution rates.

While employers argue they cannot afford these costs, we would point out in turn that the current wage bill could be reduced if the deferred wage component were to increase. But from the point of view of the employee, a higher contribution rate and a lower wage increase would lower real take-home pay during an inflation wave. Moreover, there is a general uncertainty as to the value of deferred wages or indeed even the likelihood of ever seeing the income at retirement.

It is understandable that labour organizations would avoid such negotiations and would tend to push the problems of the retired workers back onto the employers. Moreover, young employees would have even stronger objections to negotiating indexed pensions in this way because they would have no guarantee of obtaining vesting rights. At their stage in the life cycle, current income is more desirable than deferred income.

Thus, while private employers claim that they cannot duplicate the indexing provisions of public sector plans because they would have to incur higher costs, we in turn suggest that the uncertainty of indexing costs could be borne effectively by both employees and employers. Indeed, at present, savings adjustments occur at the individual level via other forms of savings, which are more discretionary. Of course, the individuals we are talking about tend to represent the higher income earners in our society.

Further, in light of the data presented in Table 4, it is apparent that only high wage firms have effectively involved themselves in pri-

vate pension schemes, since firms paying wages at slightly above the minimum wage do not have a realistic opportunity for deferring part of that compensation into the future. For low wage workers, any possible adjustments occur via their own individual efforts or with help from the government.

In the preceding discussion it was argued that at the collective decision-making tier indexing of pensions during the retirement years could be negotiated and would to a large extent be paid for by employees in the form of lower wage gains at the present time. There would also be some cost borne by the employers for their additional contributions. However, the share of the total cost would be lower for employers than employees since employers' contributions comprise part of the deferred wage package that employees are getting and that are being traded off against current income. Nevertheless, while negotiating indexed pensions is possible, such negotiations have rarely taken place. Part of the reason for this is that most employer-sponsored pensions were initiated unilaterally by employers and have continued to be exempt from the collective bargaining process. Indeed, the setting up of pensions by employers was considered to be part of a social contract that they entered into when hiring a worker. As members of the Commission have pointed out to us, the pension was considered an additional benefit to be paid to employees since firms viewed their responsibility to their workers not terminating with the workers' retirement but in fact persisting beyond that time. Since employer-sponsored pensions are exempt from the collective bargaining process, the bulk of the adjustment has fallen on employers.

In the cases where pensions have continued to be separate or independent of the bargaining process, employees are not likely to view the pension benefits as deferred wages and hence are not likely to consider trading off current wage increases against improvements in future benefits. Firms that have unilaterally improved pension benefits by indexing on an ad hoc basis the pensions received by retired employees, or by periodically adjusting the existing structure of pensions for current employees are not likely to have been able to compensate for these higher costs by saving in terms of lower current wage increases granted to their employees. For this reason, then, employers have found it increasingly difficult to adopt indexing of pensions on a larger scale. Compounding the difficulty has been the problem faced by pension fund managers in earning adequate real rates of return (in line with underlying interest and wage assumptions built into the pension plan) during periods of accelerating rates of inflation. Hence unless pension plans that were unilaterally established by employers do become part of the collective bargaining agreement, it is highly unlikely that changes in the structure of plans will be brought about by employers to permit the indexing of benefits upon retirement.

Some may argue, however, that firms, particularly the larger firms, possess a sufficient degree of market power to pass on the additional

cost of indexing in the form of higher prices. In effect, we are raising the entire question of who would pay for indexing of pensions in the middle tier, the employer-sponsored plans. Some reference to public finance literature on the incidence of the corporate tax is appropriate at this stage. However, as we pointed out in Section (d), the literature has not reached any strong conclusion with regard to the incidence of the corporate tax. Those supporting the perfectly competitive model have argued that the bulk, if not all of the tax has fallen upon shareholders and depressed the private rate of return. Others who pursue the market power argument suggest that most of it is passed on in the form of higher prices. In Table 21 in the preceding section, this ambiguity is highlighted.

Our position is that indexing of private post-retirement incomes should be paid for entirely by employees since they are the ones who would gain from this benefit. However, in the real world where pensions are either part of the collective bargaining agreement or are unilaterally administered by employers, employees would not bear the entire cost of indexing. Part of the cost would be borne by shareholders of companies and by consumers and suppliers for these companies. Since most of the private plans are in the high wage sector of the economy, from an equity point of view government indexation of retirement benefits at the second tier would tend to result in a redistribution of income in general from low income individuals to middle and higher income individuals.

In concluding this section, we would like to reiterate that in a world consisting of only two levels - the government decision-making tier and the individual decision-making tier - the adjustment of the pension savings decisions to unexpected-unanticipated inflation changes would be made by and large by individuals, and to a lesser extent by government. As government is involved, a redistribution of income in the direction of lower income individuals could occur. At the individual level one would expect changes in the contribution rates over time if inflation per se were perceived to be unstable. Obviously, the savings adjustments by individuals would only occur among those who were still employed. The retired would have to rely solely on the government for any adjustments to unexpected and unanticipated inflation moves. Finally, the savings adjustments that would be made would be much greater, both in terms of number and absolute value, if the rate of inflation permanently increased.

6. CRITICAL ASSESSMENT OF ALTERNATIVE PROPOSALS FOR INDEXING POST-RETIREMENT BENEFITS

a) Introduction

In essence this section of this study is intended to represent a culmination of much of the previous work. If mandatory or non-mandatory

indexing of private pension benefits is to be recommended, which mechanism, or mix of proposals, seems to be the most appropriate? A review of a series of proposals implies that certain minimum yardsticks for evaluation be considered. Among these yardsticks are the following:

1. expected effect on the present distribution of income;

2. expected financing impacts on private plans - i.e., the actuarial soundness test;

3. the involvement test - what does the scheme do in terms of the prospective impact on negotiated compensation packages?

Let us consider these three major criteria. With regard to income distribution, it has already been noted that it is very difficult to state who will be the winners and losers from the introduction of a scheme. To place that question in perspective, if the scheme which is being considered requires federal government financial payments, it is necessary to ask whether the prospective increases in federal government budget deficits will be financed by tax hikes or government expenditure reductions, etc. Moreover, it is important to ponder what the prospective effect will be on the individual pensioners, the workers, and of course the employers.

Under the second actuarial criterion, as an example, we simply note that the introduction of a new indexing plan may be regarded as actuarially sound or not, may have the effect of reducing the extent of experience deficiencies, or not.

The last criterion follows from an argument that without impediments one would expect the collective bargaining system to be a proper vehicle for the introduction of such plans. By this test we essentially inquire whether the pension question will be handled in a more fruitful way by the collective bargaining system.

Once again, it is necessary to state that ultimately the most important consideration may be income distribution. Identifying winners and losers in this way may nearly be impossible.

The various post-retirement indexing proposals for private pension plans which are briefly reviewed here are listed below. It should be noted that in some cases the options are not that different from each other. That is, a partial mandatory indexation by employers, or indexation with a cap, differs only in degree from full mandatory indexation.

1. The index bond solution.

2. The government as an insurer of last resort.

3. Excess interest scheme.

4. Continual ad hoc indexation adjustments.

5. The collective bargaining fulcrum.

6. The inflation tax credit.

7. Cofirentes +; Martin O'Connell proposals.

8. Keith Cooper - partial indexation plan.

b) Professor Pesando's Schemes

According to James E. Pesando the nature of the solution to the indexing problem is obvious. While private industry may feel it is unable to accept the actuarial risk of providing a real rate of return instrument,(17) (Pesando and many other economists have already noted that it is surprising that the private sector itself has not come out with real rate of return instruments) the government has a legitimate interest in accepting this form of actuarial risk in order to protect retirement incomes from the ravages of inflation. In a provocative paper entitled "The Indexing of Private Pensions: An Economist's Perspective on the Current Debate," Pesando discusses two potential solutions. In one the national government would issue a purchasing power bond to private pension plans. In the other, the government would offer an insurance scheme to private pension plans so that they would be in a position to offer "a real income" pension benefit to the retired workers.(18)

(i) The Index Bond Solution

In order for a pension plan to be able to offer a real rate of return benefit, it must itself have access to financial instruments that are automatically and fully adjusted for inflation without the lender experiencing any changes in the value of the asset. In this part of the report we touch on the option of the pension fund purchasing a real purchasing power bond issued by the Government of Canada. The manner in which a purchasing power bond could operate is described in Table 23.

As noted earlier, in an inflationary period as the rate of inflation accelerates, market rates of interest adjust and, of course, bond prices fall. Indeed, Pesando notes that the adjustment to changes in inflationary expectations in the bond market is fairly complete, as an expected one percentage point rise in the rate of inflation produces a one percentage point increase in interest rates. This is consistent with the Fisher principle. However, the adjustment ignores the decrease in prices of existing bonds with coupon rates below current yields.

In the accompanying table we use the following figures to provide an example of how this mechanism would work. We assume that the adjustment between rates of inflation and changes in nominal yields is instantaneous. We assume that at the issue date nominal yields on a one year

bond are 9.7 per cent, the expected rate of inflation is equal to 7.7 per cent per annum, the actual rate experienced during the preceding year. The investor (lender) plans to hold the security for one calendar year. During the year there has been a change in the inflationary environment with both the expected and actual rates of inflation having increased by 2.3 percentage points and market yields rising proportionately to 12 per cent. The bond owner thus experiences a real loss of $2.30 from his original expectations. That is, for full indexing to be in operation, the realized nominal payments at maturity must be $112 rather than the $109.90. Thus indexing via automatic increases in the fixed coupon to compensate for the extra rate of inflation would cost the issuer of the bond $2.30 in this example.

In a decelerating inflation period nominal yields decline and, of course, real gains in excess of 2 per cent are earned on the fixed price security. In other words, a purchasing power bond is like a Canada Savings Bond with a floating coupon rate.(19)

Thus, purchasing power bonds have a symmetry when the rates of inflation accelerate or decelerate and when the adjustments to expected changes in prices are rapid. If such an instrument were available to private pension funds then, of course, they would be in a position to offer real denominated pension benefits.

Note in the example in Table 23 the assumption that the real rates of return earned on the purchasing power bonds would match the real rates of return which would be earned on comparable financial instruments. To reiterate this point, if there were an unanticipated shift in inflation, the government issuing the bond would not really undertake any additional costs in real terms. This type of index bond takes care of the unanticipated inflation changes, for at maturity the total nominal payment to the lender has the same purchasing power as the nominal funds originally loaned out, plus the real rate of interest.

But the introduction of indexed bonds results in changes which are much more profound than simply the differences cited in the above example. The issuer of the bond (borrower) in a sense accepts the entire risk of offsetting the inflation losses. Therefore, undoubtedly the issuer of the bond would desire or demand in the market-place to borrow at a real rate of return somewhat below the real return on non-indexed bonds. In effect, the difference in the initial real rates of return could be viewed as a premium being paid by lenders to insure against unexpected inflation changes. Since it is unlikely that the private sector will issue such securities, the index bond solution in essence means that Ottawa would have to issue these securities.

(ii) Analysis

If one digs deeper into the implications of the Government of Canada issuing indexed debt, the advantages become less clear-cut. It

is clear that there are unknown but potentially large capital market implications of such a scheme. In turn, these effects depend on whether the amount of such securities would be limited and who or what institution would have access to them. Among the possible capital market implications are:

1. Since the coupon rate on these bonds adjusts quickly to inflation movements, nominal yields on all fixed income securities might adjust more rapidly to inflation.

2. If it is deemed that only a limited quantity of such bonds is to be made available, how would a rationing system be devised? Why is it fair for private pension funds to have access to such securities, when such funds cover only about 40 per cent of the work-force? Real purchasing power bonds obviously will be an attractive savings instrument - should they also be made available to RRSP holders?

3. Private debt would be less acceptable to pension funds if purchasing power bonds were available from the federal government. In order to become more like a purchasing power bond, which after all is a very short-term instrument, private debt would tend to see its term structure shortened. This would make private financing more difficult and increase risks associated with cyclical fluctuations resulting from economic activity.

4. Would trading in these purchasing power bonds be permitted? Trading, per se, would tend to speed up the adjustments in the price and yields of other securities.

5. The larger the volume of such bonds in existence, the more the management of funds becomes automatic, not discretionary. This scheme could remove some of the incentive for good management of pension funds.

6. As well, what would happen if the federal government were operating its cash budget in a surplus position? While at the present time this might not appear realistic, it might not always be the case. In effect, then, the government would end up as a purchaser of last resort of private security debt and equity - and in fact - the government would be an extra intermediary between the pension industry and the private sector. One could visualize with such a scheme private investment funds holding only government bonds and the government portfolios owning the bulk of private equity. Indeed, Pesando has admitted this possibility.

In addition to the possible capital market effects there are two other shortcomings to the index bond proposal.

1. To return to an earlier point, even if indexed bonds were made available, the pension benefit terms would still have to be renego-

tiated if indexing were the goal. That is, although it might be somewhat easier to introduce indexed employer-sponsored pensions because of the existence of such bonds, the introduction of these bonds need not result automatically in indexing. Any shift from flat benefit to indexed benefit schemes would still require immediately higher contribution rates by both employees and employers until the current level of deficiencies was overcome. Indeed, indexing would be easier to achieve but the availability of index bonds alone provides little incentive to negotiate collectively or introduce unilaterally indexed post-retirement benefits.

2. The issuance of indexed bonds by Ottawa, which could possibly be a substitute for some of its own fixed income debt or Canada Savings Bonds, could have some income distribution effects. There are a number of possible outcomes on the income distribution front, depending on whether Ottawa's net borrowing rises, falls, or remains the same with the issuance of part of that debt in a fixed income form. In essence, in the past Ottawa could have been a net winner due to rising inflation as a result of its net borrowing position. This could alter.

   In a deteriorating inflation environment the private pension funds which would have access to the fixed income debt would be better off - and thus so would their interested parties, the firms and their employees, and at some point the pensioners. In an improving inflation environment this would not be the case - as indexed bonds would not offer the portfolios any capital gains.

   If one assumes, however, that inflation will tend to worsen, the high wage firms who contribute to pension funds, the employees of such firms, and their pensioners would gain some advantage over those without access to the purchasing power bonds. If these bonds were spread beyond the private pension fund sector, this would tend to reduce the relative advantage to those with access to them.

   In effect, the issuance of index bonds by the government might necessitate increased taxes or reduced levels of spending. Since the bonds would primarily benefit individuals involved in the second tier employer-sponsored pension plans, there could occur some redistribution of income from low to middle income recipients. Moreover, the availability of index bonds on a limited scale to pension funds, or even on a larger scale, would accomplish nothing in terms of resolving the indexing problems of individuals not covered by employer-sponsored plans; namely, low wage and part-time workers.

   Thus we are in general agreement with Pesando that the purchasing power bond solution itself might not be ideal.

(iii) Government as an Insurer of Last Resort

In Pesando's view, the federal government has no practical alternative but ultimately to get involved in underwriting the inflation risk for the pensioners. He notes that the CPP and OAS plans are both fully indexed and underwritten by the taxing powers of government. Thus, there are three critical points in his plan:

1. Sponsors of defined benefit plans must purchase a requisite annuity from an insurance company which yields a real rate of interest in order to provide a real benefit.

2. The federal government could underwrite the risk associated with unanticipated inflation, as long as any error made in the forecasting of this inflation would tend to equalize out to zero over some period of time. The life insurance company would have to pay the government a premium for this insurance service.

3. Tha annuity could be issued directly by the government or indirectly by private insurance companies or the firms themselves which in turn would have the government underwrite the risk.

While we doubt that purchasing power bonds are the ideal instrument for overcoming the inflation-induced losses to pension plans, we also have qualms over the insurance scheme approach. Our qualms are related to the practical limitations of the plan. It should be recalled that the essence of the scheme is that the government functions as an insurance agency for life insurance companies which in turn provide pension funds with annuities generating a real benefit level. In effect, the scheme is concerned only with retirement income and guaranteeing that the real return during the retirement years on the investment pool built up during the pre-retirement period would be adequate to provide for a fully indexed pension.

> "In particular, the federal government could sell insurance (for example) to life insurance companies which would enable them to sell fully indexed annuities. In effect, the government would underwrite the risks associated with the possibility that the subsequent rate of inflation would diverge from its expected path, or 7 per cent in the above example." (Pesando, page 16)

Under the insurance scheme the pace of future inflation would be calculated from the current nominal yield of long-term bonds. Thus if long-term government securities currently were yielding 10 per cent, and 3 per cent were the estimated long-term real rate of return to such securities, then 7 per cent presumably would be the expected long-term rate of inflation. If the inflation rate actually exceeded 7 per cent, then it would be necessary for the insurance fund to transfer funds to the insurance companies which issued the annuities to the pension fund.

As Pesando notes in his paper, the insurance fund would operate symmetrically, transferring funds to plans when inflation (and yields) were rising, receiving funds from plans when inflation (and yields) were moderating. For governments to net out neither a winner nor loser, the rate of inflation would have to have a meaningful average over some period of time; or stated in another way, as long as inflation forecasts were on average correct. If forecasts were on average correct, the funds would remain on average relatively stable in size, and in turn government's involvement would simply be mechanical rather than fiscal.

iv) Analysis

1. In the purchasing bond case only part of the portfolio would be affected by the scheme. Under the insurance scheme, that part of the portfolio which was transferred to the insurance company on which inflation gains (or losses) would be calculated would be affected. Thus the potential impact of the insurance fund scheme, if restricted to insurance companies only, is indeterminate without knowledge of such variables as the proportion of assets converted into annuities offered by the insurance companies and the demographic composition of the private sector work force.

2. A real risk in this scheme is the potential for the insurance fund to not calculate properly its own actuarial risk. There would be, indeed, the possibility of severe drains on the national treasury if inflation acceleration were the course for a long period of time. Or stated another way, if there were a permanent increase in the average level of inflation, this could cause significant problems, since the government would end up in a deficit position with regards to fulfilling its obligations.

3. Calculating the inflationary expectations figure from the yield curve is not as straightforward as economic principles suggest. No doubt the assumption of a fixed real rate of return would be adopted in such calculations, though of course, there is no reason why real rates of return to government securities should be fixed.

   To provide an example of where big transfers could occur from the fund to the insurance company, consider the following. In 1974 long-term government securities were yielding 8.87 per cent while the actual recorded rate of inflation was 10.9 per cent. If a fixed real yield was assumed to be 3 per cent, then the expected rate of inflation at that time for the time horizon into the future would have been 5.5 per cent. In fact, the rate of inflation in 1976 was easily double that expectation, and in 1977 was considerably in excess of the presumed 5.5 per cent rate. Granted this problem could be minimized over a long enough period of time, but the short-run implications could still be very severe.

4. An associated part of the above concern is that relative spreads between security yields alter, depending upon market conditions. These interest rate spread changes might be picked up in a calculation as a shift in the inflation expectation components of the yield structures.

5. The insurance scheme does not deal with the existing problem of experience deficiencies and unfunded liabilities. Unless the insurance scheme were extended to the total pension pool of assets, this problem would still exist, particularly during periods of rising inflation rates.

6. The insurance plan does not provide a direct incentive for negotiating or unilaterally introducing post-retirement indexing, albeit it does provide a vehicle for making indexing somewhat less risky. Employees might prefer to adjust to unexpected or unanticipated changes in the rate of inflation on their own rather than be compelled to do so through the medium of employer-sponsored plans.

7. Even if the rate of inflation did fluctuate over time around a single value rather than fluctuate but increase from one level to another, long-run inflation expectations would change from year to year in response to the annual movements in actual rates of inflation. Hence the guaranteed rate of escalation built into the annuities would fluctuate from year to year so that the administration of the insurance fund would become increasingly complex over time. Thus, a peculiar situation could arise in any given year with some life insurance companies paying into the fund and others receiving from it.

8. The prevailing rate of inflation during the retirement years would have to be correctly assumed in order to establish contribution rates that would generate an adequate fund to purchase the desired real value annuity. Moreover, the pension fund would have to earn the real rate of return implicit in the host of actuarial assumptions underlying the structure of the fund. The insurance scheme does nothing to deal with the problems that might arise at these stages.

9. It is hard to assess the relative winners or losers in terms of income distribution impacts. This scheme is designed, in principle, not to alter the federal government budget position. If that were the case, the pension fund participants, employers, employees, and pensioners could be in an improved relative position over the longer run, depending upon insurance premium rates, and how they were shared. If this scheme were in place and there were a high, unexpected increase in inflation, then the ultimate increase in the federal government budget could have an effect depending upon the financing of the fund transfers from the government via the insurance industry to the pensioners.

It should be recalled that if the transfers were financed by higher federal taxes, the cost would be borne in a very slightly progressive manner across income groups. If the transfers were financed by government expenditure reductions, then alternatively, the costs would be borne in a fairly regressive fashion across income groups. If the transfers were financed by a higher federal government deficit, that is, if the transfer funds were in turn borrowed in the market-place, then the incidence effects would be clouded extraordinarily.

c) The Excess Interest Proposal

In order to determine pension contributions, either for the employer alone or for employees and employers combined, it is necessary to create a fund that will be adequate to purchase the annuity promised to the employee. In this regard assumptions are made concerning price and wage inflation and the interest earnings appropriate to the investment vehicles of the plan. It is possible, as rates of inflation and nominal yields change over time, that the actual earnings of the plan may exceed the assumed earnings. Thus, it has been argued that when excess interest is earned, the excess earnings should be used to index to whatever degree possible the pensions of former employees who are currently retired and receiving pension benefits from the company. It should be pointed out that the extent of the indexing of existing pensions would be strictly a function of the level of excess earnings. There would be no guarantee from year to year that indexing would be continued and as well that there would be full indexing in any given year. To some extent this plan is an offshoot of the ad hoc indexing provisions already practised by many major employer-sponsored pension plans.

(i) Analysis

1. The short-term excess interest rates earned by a fund could be used to reduce the contributions by employers or employees to the fund or to improve the benefits to present employees rather than to index the pensions of past employees. Obviously, some combination of the three options could result, for if existing pensions were indexed, there would likely be demands by current employees to have their pension benefits improved as well. Alternatively, current employees could demand to have their current contributions reduced without any commensurate improvement in their pension benefits.

2. This scheme does little to deal with the problems that may be faced by low wage workers or low income pension recipients and it ignores entirely the possibility of setting up incentives for adjustments to inflation to be undertaken at the individual tier.

3. The excess interest earned may be inadequate for full indexing, particularly during periods of rising inflation rates, if nominal interest rates do not adjust fully or rapidly to changes in infla-

tion rates and the returns earned by private pension funds do not adjust rapidly and fully to nominal interest rates.

d) Ad Hoc Adjustments

To a large extent the private plans which adjust benefits in an ad hoc manner are applying the excess interest proposal. At present many employers periodically improve the pension benefits provided to former employees. This reflects in part the social contract nature of the pension plan and to some degree as well the improved earnings of the plan, because of either good management or higher nominal yields resulting from higher rates of inflation.

(i) Analysis

1. We do not have any fundamental disagreement with the existing ad hoc indexing schemes. Even though they do not meet the full demands for indexing and there is no guarantee that there will be any indexing from year to year, such schemes can be integrated with others that provide greater incentives to individuals to plan for retirement.

e) The Federal Government Accepting a Role as Lender of Last Resort to Employer-Sponsored Pension Plans if They Would Provide Fully Indexed Benefits

This scheme is in effect a modification of an insurance program of private employer-sponsored plans, but the focus would be on the unfunded liabilities and their implication for post-retirement indexing of benefits.

Under this framework, the government would:

1. Provide an incentive to private pension plans to offer fully indexed benefits by making borrowed funds available to the plans during rapid inflation escalation periods.

2. Tighten the regulation of employer-sponsored indexed benefit plans in such a way as to force them to deal with their unfunded pension liabilities more rapidly than at present.

For example, funds that were in a serious deficit position with regard to their future expected liabilities as a result of indexing post-retirement benefits would be required to fund these additional liabilities within three to five years, possibly by borrowing temporarily from the central authority an amount necessary to cover part of these unfunded liabilities. The rate of interest charged on such borrowings could be in line with the prime rate.

The plan would place a ceiling on the borrowed funds available - and in essence would force the pension plans to adjust their contribution rates to remove any systematic and long-term problems. It is conceivable that pension funds could exhaust their borrowing limits, and might then be required to seek out outside sources of funds to cover any deficits calculated at that time. Such borrowed funds would have to be repaid within a three to five year limit. Those funds whose performance was above the market, and which did not incur unfunded liabilities, obviously would not require any recourse to the lending authorities.

The main purpose of this scheme is to apply pressures upon employers and employees to introduce more flexibility into either contribution rates, benefit rates, or both, in view of the changing inflation climates; in effect, to force employees to directly recognize their responsibility in managing for their retirement income. If indeed higher unfunded liabilities resulted, it should be recognized that the sharing of the liabilities is a joint responsibility subject to negotiation between employees and employers. Since the pension benefits are at least in part a form of deferred wage, it is imperative that employers and employees negotiate any shortcomings in existing plans and decide whether tradeoffs should be made between current wage increases and future income.

(i) Analysis

1. This program, however, would not in itself guarantee that collective negotiations would result necessarily in post-retirement indexing of benefit payments. Nevertheless, we suggest that it is worthwhile to highlight the fact that errors are made in calculations which may require either changes in negotiated contribution rates or changes in benefit levels. Indeed, by highlighting these facts there may be further recognition that post-retirement indexed pensions are also an area for negotiation between employers and employees.

2. As we have suggested earlier, the existence of unfunded liabilities in itself might not be necessarily a negative factor, if employers use the funds they could otherwise have contributed to the pension plan for physical rather than financial investments in order to earn a higher rate of return.

3. This scheme does little to deal with the problems faced by past employees who are receiving fixed dollar pension benefits. Moreover, this proposal is attempting to force the resolution of the indexing of post-retirement pensions onto the second tier employer-sponsored plans.

f) The Inflation Tax Credit Plan

The federal government would accept the indexing cost of self-administered plans and employer-sponsored plans, but only up to a maximum limit under the inflation tax credit scheme.

All persons aged 68 or over would be entitled to claim a tax credit to offset the effects of inflation on a protected band of income, say, twice the floor now provided by government programs, OAS, GIS, and CPP, which are currently fully indexed. The amount of the credit could be based on the inflation rate during the taxation year in which the credit was claimed. The income offered inflation protection would include all sources other than rental income or earnings from employment with a view that those who had saved for retirement would retain the incentive for saving since they would be protected to some extent from inflation or income beyond that received from government programs.

The inflation tax credit would be based on a cumulative inflation rate for each year after age 68. In this way protection would be on a universal basis and not just for those in pension plans which may be indexed or increased by ad hoc payments from time to time. Government programs would continue to be indexed as before.

(i) Analysis

1. A key ingredient in this plan, aside from the manner in which the federal government assumes a responsibility for minimum real incomes for the aged, is the potential impact on the federal government budget. Aside from the worthwhile potential income distribution effects stemming from the proposal itself, there is an extra income distribution effect that would result from the increase in government outlays.

   As we noted in an earlier section, changes in tax revenues or expenditures have rather different income distribution effects. Thus the federal revenue system tends to be mildly progressive with respect to income, though federal government expenditures are very progressive in terms of their income impact. The secondary effect depends on whether the budget deficit is increased or decreased, and the financial effects on revenues or expenditures stemming from this.

2. A positive side to this proposal is that it explicitly recognizes that the government's role in the pension field is to ensure that there is a minimum pension in real terms available to all individuals upon retirement. Additionally, it recognizes that private pension benefits are only part of the stream of total earnings available to pension recipients. The federal government currently provides a minimum income level via its OAS and GIS payments - and both social security transfers are presently fully indexed. If

pension-age individuals have worked, they also earn a pension on their CPP/QPP contributions; once again the benefits are fully indexed for inflation. Current practices are designed so that the CPP/QPP share of the minimum income requirements would rise over time.

3. The fact that self-administered plans will also be provided with the same degree of index protection means that the pensionable employee and those under self-administered plans are treated equally.

g) Proposals to Extend the CPP/QPP

(i) Cofirentes +

The principal recommendations of the study were as follows: that the Old Age Security system be continued with the same objectives and structure as at present, but that if a guaranteed minimum annual income scheme is adopted, it replace the GIS. The study suggested that the QPP retirement benefits be increased by 50 per cent up to one-half the YMPE and 25 per cent of the portion above that up to the YMPE. In addition, that the current value of the YMPE should reach the average industrial wage level within a ten-year period. Finally, the indexing formula for both OAS and QPP pension payments would be continued.

(ii) The O'Connell Proposal

In a June 1975 study, Martin O'Connell, the M.P. for Scarborough East, recommended that the CPP/QPP be phased up from the maximum of 25 per cent of average industrial earnings to 40 per cent by 1985 and 50 per cent by 1990. In addition, OAS payments would be maintained at no less than 12 1/2 per cent of average industrial earnings, so that combined payments under CPP and OAS would generate up to 62 1/2 per cent of the average industrial wage upon retirement and both payments would be indexed fully for inflation. Mr. O'Connell also provided other recommendations with regard to mandatory membership in private pension plans, earlier vesting, and other adjustments in private plans which are not of direct relation to the issue of indexing.

(iii) The Cooper Proposal

Keith Cooper, in a paper presented to the Guelph Chamber of Commerce in June of 1978, stated:

> "An adequate retirement pension would be provided by a pension equal to 75 per cent of final three-year average pay up to the Canada Pension Plan ceiling (the average wage in the country), and 60 per cent of final three-year average pay above the Canada Pension Plan ceiling. These percentages include both Canada Pension Plan and Old Age Security benefits which produce pensions

of approximately 40 per cent of earnings up to the average wage in the country. Therefore, a private pension plan providing 35 per cent of final three-year average pay up to the average wage in the country and 60 per cent of the average wages above this level is all that is needed to provide an adequate pension....In the areas of indexing we suggested that only that portion of the pension earned on income up to the average wage be indexed. In addition, we suggested that indexing occur only after inflation exceeds two per cent in any year....Both OAS and CPP benefits are fully indexed and they represent 40 per cent of average wages. We're only talking about a loss in purchasing power of two per cent on the balance of 35 per cent of average wages."

Mr. Cooper's remarks on indexing pensions are consistent with the life cycle model that was set out in Section 5 and would be supported by us; namely, that "indexing pensions earned on wages above the average Canadian wage....should be the concern of the individual....What is needed is for government to foster a more attractive climate for higher paid individuals to defer income in order to be able to apply such savings to offset the loss in purchasing power of that portion of the retirement pensions earned above the average Canadian wage."

(iv) Analysis

There is a strong similarity among the three sets of proposals. It is hard to quarrel with Cooper's suggestions as to what comprises an adequate retirement pension. However, one could argue that, at a minimum, an adequate retirement pension should be equal to 75 per cent of the final three-year average pay, up to the average wage in the country - that is, 75 per cent of a three-year average of the average industrial wage in Canada. If this, then, is the minimum adequate retirement pension, it can be achieved through the creation of a guaranteed annual income program for the elderly which would basically incorporate and expand the OAS/GIS system and minimize the role of the CPP/QPP plans. Or, a similar objective could be achieved by expanding OAS/GIS, CPP, and QPP along the lines recommended in the Cofirentes + and O'Connell studies.

With regard to indexing, we differ slightly with Cooper's proposal that it only occur for inflation rates in excess of 2 per cent per year. As we noted in Section 4, even with full indexing of retirement pension benefits, in relative terms, the elderly fall behind wages earners and other income recipients in the economy.(20) They do not gain from the productivity improvements in their retirement years, which suggests that, to the extent that private pension benefits represent part of the minimum adequate level, private pension benefits should be fully indexed.

The main beneficiaries in terms of income distribution, because of the full indexation of OAS/GIS, CPP, and QPP, appear to be retired workers who were low income wage earners. In many cases, they are not cov-

ered currently by private pension plans. Our analysis and conclusions are consistent with some aspects of Cooper's proposal that indexing of employer-sponsored plans should remain primarily a responsibility of the participants. Indeed, we suggested a plan whereby the federal government would provide an incentive for full indexation of private benefits - the incentive to stem from the creation of a lending authority to finance the plans during difficult inflation periods.

One last element in Mr. Cooper's plan was the proposal to provide additional incentives to private savings. If this were adopted, it would enable individuals to adjust their own savings decision more rapidly to unexpected and unanticipated changes in inflation rates.

We recognize the fact that further tax incentives for savings along the line of expanding RRSPs would tend to result in some net benefits to middle and upper income recipients and could possibly result in a redistribution away from low income recipients. Any possible adverse redistribution of income that could arise would not likely be any worse than the redistribution that would arise under the various other schemes that have been proposed - other than those in this last section.

Expanding CPP/QPP coverage would necessitate increases in the contribution rates and would place the financing burden directly on those who should face up to the retirement decision, namely, the individuals involved. Further, it would relieve some pressures on employer-sponsored pension plans to undertake ad hoc indexing for current retired employees or for future retired employees. The employer-sponsored pension plans would, in effect, have to fill a smaller vacuum in the overall pension picture. Further, such a scheme would assist those in low wage jobs at the bottom end of the income spectrum.

Expansion of the Canada Pension Plan could also be associated with variable contribution rates. Indeed it might be possible to make contribution rates variable over time with rates of inflation, as well as variable over an individual's lifetime to take into account the life-cycle savings interests. In this way, then, there would be fewer pressures on younger families and individuals to save or contribute to pension plans during their earlier years. They would contribute more in their later years when they could better afford to do so.

h) Summary

Clearly there are many alternatives to consider in terms of designing mechanisms to protect the incomes of the retired in Canada. These plans, or variants of plans, often are associated with other issues which deal with subjects external to the indexing of private employment pension benefits. Among these other issues are such subjects as:

1. the minimum acceptable level of retirement income (usually stated in terms of a percentage of the current average industrial wage);

2. the desired mix between social security pensions (OAS, GIS, and CPP/QPP), private employment pensions, and private savings;

3. the concern over the fact that the government indexes the incomes of public servants, while private employers feel they cannot match the indexing provisions.

Clouding the whole question of indexing of private post-retirement benefits are the associated financing difficulties for private employment plans which can be directly attributed to rising inflation, and the reality that it is very difficult to discuss, in other than very general terms, the income distribution effects of many of these measures.

In this study we reviewed a number of proposals, among them the government purchasing power bond scheme and the government insurance related scheme - the latter plan in particular was proposed by Professor James Pesando. As well, we considered present practices which result in ad hoc indexing of post-retirement incomes financed by the apparent excess interest earnings to plans resulting from inflation-induced higher interest rates. In this regard the authors suggested a plan which would have the federal government stand by as a lender of last resort to the private pension plans if the participants would negotiate full indexation of post-retirement benefits. We also reviewed an inflation tax credit plan, and as well considered a series of proposals to increase the coverage of the CPP/QPP. The last series of plans as well as the inflation tax credit plan take a very comprehensive approach to the entire pension system in Canada.

Our conclusions, based on a review of these various alternatives, are that we tend to favour some combination of expansion of the CPP coverage and extension of tax deductions for private contributions to pension plans (along the lines of RRSPs). We also feel that if the government were to get involved to compensate (or insure) for unexpected increases in the pace of inflation for the private plans, its involvement should be as equitable and as universal as possible. In our view, the labour-management participants should be encouraged to negotiate full indexation of post-retirement benefits.

We argued that the various insurance related schemes, or the purchasing power bond plan, were either possibly too risky for the federal budget, or possibly even unworkable. The inflation tax credit proposal uses federal tax dollars to provide inflation indexing on private benefits for persons 68 years of age or older, but still provides an incentive for employees and firms to negotiate separately an indexing option for retirement. There is a gap in the total expenditure depending upon the degree to which retirement savings increased in value with general inflation and the limit of the income protection. As we noted earlier, the proposal has the advantage of providing more real certainty to pensioners, providing a continuing incentive to save for retirement, and being somewhat universal in approach. A concern with this scheme, or

indeed any other scheme which ultimately falls back on the federal government, is that it is difficult to anticipate the federal government budgetary implications from this proposal.

In our view, any changes to the existing status should involve individuals directly so that they realize that they have to alter their savings-expenditure plans to take into account possibilities of unexpected changes in the rate of inflation. It is the individual who should make decisions on whether he desires higher indexed benefits in retirement years at the expense of lower current income or vice versa.

NOTES

(1) An idea of some of the parameters involved in a cost sharing process can be gleaned from the following rough calculations. In 1976, direct labour costs in Canada's manufacturing industries represented about 23 per cent of the value of their shipments. In firms with private plans in effect, employer contributions typically range between 4 and 6 per cent of total labour compensation. If firms with such plans faced a doubling in the cost of their private pension contributions due to mandatory post-retirement indexing, this would result in an increase in their total labour compensation payments equal to about 1 per cent of their sales revenues. If profit margins (the ratio of pre-tax corporate profits to sales) averaged 9 per cent, the doubling of employer pension costs - with no other changes - would result in about a 13 per cent reduction in the total stock of corporate profits in the companies with private pension schemes in operation. Of course, it does not necessarily follow that the full cost of indexation would, or should, be borne only by the firms. Costs could be shared with governments or the employees. Moreover, firms would, no doubt, pass on through higher prices some of their increased labour costs due to indexation of benefits.

(2) There has always been confusion in the economic literature concerning the real time dimensions of the short run and long run. The view on the long run tends to range from the Marshallian "day" - the period of time it takes fixed factors of production to become variable - to the Keynesian version that in the long run we are all dead. We tend to be somewhat sympathetic to Friedman's claim that the short-run adjustment may take up to several decades.

(3) Non-uniform inflation movements for different commodities or services are consistent with a market system playing its accepted resource allocation role. That is, non-uniform price increases are simply changes in relative prices and can be a function of underlying changes in the supply-demand balance.

(4) In the natural rate model the rate of inflation is proportional to the rate of growth in the money supply. For the government to move the unemployment rate below the natural rate and keep it there requires not only an increase in growth rate of the money supply, but an ever increasing rate of growth. When the central bank stops accelerating the growth of the money supply the unemployment rate will rise towards the natural level. However, at this stage the growth rate of the money supply will be greater than the rate of growth prior to the government's effort to reduce the unemployment rate. Hence, the corresponding rate of inflation will also be greater even though the unemployment rate returns to its natural rate.

(5) For this reason we would not support the need to construct a separate consumer price index for individuals 65 years of age and over. If, as the Statistics Canada calculations demonstrate, there is little difference in the resulting rates of inflation over a four-year period, a period during which there was a sharp increase in the rates of inflation in Canada for the offical target group and low income families, we do not believe that there would be any considerable difference in the rates of inflation as measured by a separate consumer price index for the retired population and for the official target group of the consumer price index.

(6) For that matter, a fixed weight price series has limited value in terms of judging the total budget impact of general inflation, since it does not capture substitution responses to generalized inflation.

(7) See Pesando and Rea (1977), Chapter 3.

(8) For further illustration, see Pesando (1977), p. 19.

(9) This statement is valid if debtors and creditors both have the same marginal tax rate on average and the nominal interest rate has fully adjusted for the marginal tax rate as well.

(10) Indexation definitely speeds up the adjustment to altered paces of inflation. Indeed, the escalation clauses in negotiated labour contracts are there to ensure that labour will not be surprised by a rapid rate of unexpected inflation.

(11) As Pesando and Rea note under the Pension Benefits Act, "Employer liabilities with regard to private pension plans are divided into three categories: (1) current service costs, which must be fully funded on a yearly basis; (2) initial unfunded liabilities arising from the establishment of a new plan or an amendment of an existing plan, which must be amortized over a fifteen-year period; and (3) experience deficiencies which refer to any deficit determined at the time of review of a plan due to factors other than (i) any initial unfunded liability, or (ii) the failure of an employer to make any payment as required by the terms of the plan, the Pension Benefits Act, or the regulations....The Pension Benefit Act requires that experience deficiencies be amortized over a five-year period."

(12) See James E. Pesando, "Sure We Can Afford Indexed Pensions" Benefits Canada, Maclean-Hunter, Vol. 2, No. 3, May-June 1978 and Leslie Barnes, "The True Cost of Pension Indexing," Civil Service Review, September, 1977.

(13) Stated in another way, if pension benefits were escalated at the same rate that money wages were, the pensioner would be in the same relative position as the worker. Over longer periods of time as wage gains exceed inflation gains, both would experience rises in real wages.

(14) Economists view pension benefits as deferred wages. This fact is clear since pension benefits represent part of the total compensation package and were negotiated in the collective bargaining arena. As we note here, the "deferred" component of the compensation package usually has no inflation protection, unlike current wage earnings.

(15) In their brief to a Commission, April 28, 1977, Leslie W.C.S. Barnes, Robert A. Crozier, and George T. Jackson voice the same objection to the Calvert value judgment, but in a harsher manner.

> "Calvert would have us believe that inflation does society a favour by placing unnecessary luxuries beyond the reach of the pensioner." (Page 13)

(16) Relatively fixed contribution rates tend to prevail in the real world for both the CPP/QPP and the private plans.

(17) Unquestionably, if private pension funds had access to a real purchasing power bond, their experience deficiency problems, as noted already, would be somewhat diminished.

(18) In the final analysis, Pesando favours his insurance scheme proposal over the purchasing power bond proposal.

(19) Effectively a purchasing power bond is a short-term financial instrument and to that degree the Government of Canada would be subject to liquidity drains just as it is in the annual November Canada Savings Bond campaign. Ottawa can handle these liquidity drains while the same is not true for private firms. This is why private firms choose to hold a relatively small proportion of their debt in short-term financial instruments. The 1970 and 1974 financial crunches in North America exemplify the difficulties corporations can get into when the term of the debt becomes unusually short in a tight monetary environment.

(20) Ironically, money wage settlements typically average about two percentage points higher than gains in inflation. Forgoing full private pension indexing can be regarded as almost a double "productivity" loss for the retired worker.

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The Impact of Social Security Financing on the Capital Markets in the 1980s

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March, 1979

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1. INTRODUCTION: THE ECONOMIC POLICY ENVIRONMENT IN THE 1980s

Decentralization of government economic activities, a general desire for less government involvement (direct and indirect) in the economy, and a redirection of policy interest towards micro-orientation (that is, towards specific regions, specific firms, specific groups of labour, specific consumers) and away from national or global objectives such as total employment, total production, all are part of a new fiscal reality which came into existence after the 1974-1975 world recession.

One can also observe that there appears to be a general drift in the attention of the national economic authorities towards stressing the advantages of savings and investment. While it is usually not stated specifically that there must be a trade-off between spending for capital formation and spending for consumption purposes, policy-makers are favouring the reduction, in a relative sense, of consumer spending. Moreover, one detects a general desire to reduce the government's regulatory role, since it is felt that regulations are inefficient and add to private costs of doing business. For example, it has become commonplace to point out that marketing boards for agricultural products not only result in higher prices for the consumer, but also have not generated higher incomes for the farmer.

The general tenor of public attitudes and government policies suggests that traditional macro-economic-oriented measures which typically were designed to sustain high levels of employment and production will be used far more carefully and infrequently in the future. Thus we note that the federal government not only has stated its desire to shrink the rate of growth of government spending, but also has indicated that its spending must rise at a slower rate than the total economy, thus lowering the relative share of the public sector in the economy. The end result of this spending growth rule is that the pursuit of macro-economic objectives using fiscal policy levers is somewhat limited when the objective is to expand the economy. The fact that governments have limited their maximum rate of increase in spending means that expansionary fiscal measures must come from lower taxes rather than from higher government spending. This places tax policy at the centre when fiscal stimulus is the goal. Parenthetically, when restriction is the goal, the new government spending rule does not bind fiscal policy, as the desired degree of restriction is consistent with slower growth rates in government spending.

At present, fiscal policy is also limited by the fact that deficits are large in absolute terms and historically high relative to the size of the economy. Thus fiscal policy is restrictive at present because there are two effective constraints, a constraint on the size of the government deficit, and a constraint on the rate of increase of government spending. Flexibility of tax policies is frozen essentially by the former constraint.

On the other side of the coin, the use of monetary policy is also restricted. The Bank of Canada has adopted a rule of behaviour to gradually moderate the rate of growth of the money stock (M1 definition) from the high rates of increase of recent years. Since 1975 this goal has been followed fairly rigidly and has resulted in conflicts over goals. When a more expansive policy is required, which could be interpreted to mean a faster rate of growth in the money stock than the target rate, there is some limitation in the degree to which monetary policy can pursue the expansive goal. It should be noted that other industrial countries have adopted rather similar game plans for monetary and fiscal measures, though there are some variations. In the United States, for example, the money supply targeting process began even earlier, though they are more flexible on the subject of a fiscal rule. Exchange rate policy in the United States has not been a major preoccupation of the economic authorities, but exchange rate concerns have always played an important role in Canadian economic policy-making constraining central bank freedom vis-à-vis its impact on the domestic economy. In view of the fact that the exchange rate constraint is taken more seriously in Canada than the United States and that money stock targeting will likely continue into the 1980s, this suggests that monetary policy will tend to be restrictive over the longer pull in Canada. Indeed, if there are any shifts in the current policy stance, it will likely be towards some easing at the fiscal level.

2. ENERGY PROSPECTS AND ENERGY INVESTMENT: THE 1980s

In 1976, Canada's Department of Energy, Mines and Resources (EMR) released a study outlining a national strategy for self-reliance. The report, entitled "An Energy Strategy For Canada - Policies for Self-Reliance," is important since it charted Ottawa's view of future energy needs in Canada (1976 through 1990). As well, it included an outline of a Canadian energy strategy.

The EMR report contrasted two potential energy price scenarios, a low-price scenario, which assumed no "real" change in the price of domestic oil, but did allow natural gas prices to rise to their commodity equivalent value - and a high-price scenario which basically involved domestic energy prices moving to the international price levels.

Since the release of the report, Canada has followed a policy consistent with the high-price scenario. The original asumptions used in 1976 were the following:

> "In this scenario, it is assumed that oil prices increase relatively faster than the prices of other goods and services until about 1978, when they reach a level that is roughly equivalent to the current international price (about $13.00 per barrel landed in Montreal in 1975 dollars). Prices for electricity and coal are assumed to increase at the same rate as oil prices and the price of

natural gas is...assumed to adjust to 'commodity-equivalent' value with crude oil ($2.25 Mcf at the Toronto city-gate, in 1975 dollars) by the late 1970s. After 1978, all energy prices are assumed to increase at only the general rate of inflation."

According to the EMR study, to produce and achieve Canada's goals of self-reliance in energy would require about $180 billion (constant 1975 prices) in total investment between 1976 and 1990. The distribution of this energy investment is set out in a chart from the EMR study (see Chart 1 and Table 1). The concerns which sparked the current study can be detected in the sharp bulge in pipeline investment centred in the early 1980s.

The EMR study notes that this large anticipated growth in energy investment must be, ultimately, at the expense of investment in other fields. The report projected the energy investment share of GNP to peak in the 1980-1985 period at 6.2 per cent:

1950 - 1975	3.5 per cent of GNP
1976 - 1980	5.0 per cent of GNP
1980 - 1985	6.5 per cent of GNP
1986 - 1990	4.2 per cent of GNP

As the EMR study noted

"The construction of Northern pipelines will require substantial issues of debt and equity and, until deliveries commence, will have to be financed entirely from externally generated funds. The scale of the projects envisaged, the uncertainties surrounding their construction and operation, and the timing of their possible demands on capital markets, suggest that it may be necessary to consider government financing assistance in some form. At a minimum, it will be desirable to coordinate possible demands for capital in a manner that minimizes the strains on Canadian capital markets." (page 110)

Furthermore, a glance at the accompanying EMR chart strongly suggests the possibility of a boom-bust economy in the early 1980s as pipeline investment accelerates sharply between 1978 and 1984 and decelerates sharply between 1984 and 1989. In the EMR report there was also a projection of the impact of the "high-price scenario" on the "energy" balance of payments - expressed in 1975 prices, a $2.2 billion deterioration in the oil trade account between 1976 and 1985, with the deficit in oil trade projected to reach $4.5 billion by 1985. The total energy trade account is projected to be in an $800 million deficit in 1985 (expressed in 1975 prices).

The Toronto Dominion Bank, in a study on energy investment demands, has set out estimates of total investment and its sub-components for the period 1977-1990. According to the TD projections, energy investment as

a proportion of GNP reaches 6.7 per cent in 1990. This compares with the EMR projection of 4.2 per cent. Professor David Foot, in a study for the Ontario Economic Council, also projects an early peaking in relative energy investments (1983), and by 1987 the energy investment-GNP ratio falls to 4.9 per cent. Finally, at a First Ministers' conference, the Minister of Energy, Mines and Resources listed a series of energy investment projects for the 1980s. In constant 1977 prices, the department identified a large number of projects, with a low side figure of $55 billion. Many specific projects were mentioned, but without accompanying construction cost figures.

The thrust of these scheduled projects, and related studies on aggregate energy-oriented investment, imply a significant tilt in the demand components of the Canadian economy in the direction of public and private energy investment spending. This study notes in the following section that, to some extent, the shift towards energy investment in the 1980s will occur as the residential construction sector declines on a relative basis.

Table 1
Estimated Energy-Related Capital Requirements: 1976-1990

(High-price scenario, billions of 1975 dollars)				
	1976-1980	1981-1985	1986-1990	Total
Electric power	21.7	32.5	37.0	91.2
Pipelines	5.7	19.2	3.0	27.9
Petroleum				
Exploration and development	10.6	15.5	14.2	40.3
Refining and marketing	3.9	4.1	4.8	12.8
Oil sands	3.0	2.3	.3	5.6
Coal(a)	.8	1.5	.9	3.2
Energy investment	45.7	75.1	60.2	181.0
Estimated GNP	912.1	1,162.0	1,438.5	3,512.6
Energy investment as per cent of GNP	5.0	6.5	4.2	5.2

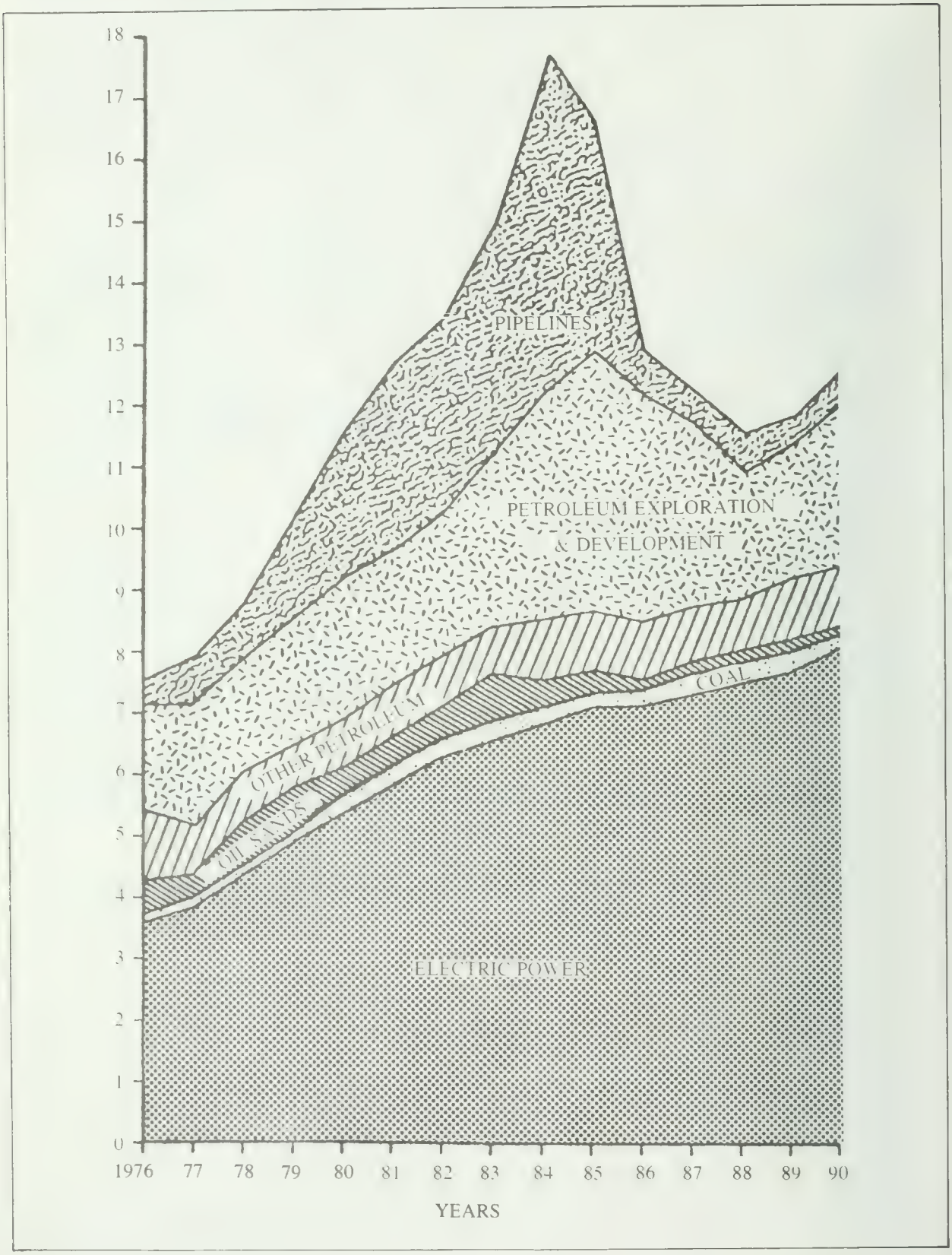
(Low-price scenario, billions of 1975 dollars)				
	1976-1980	1981-1985	1986-1990	Total
Electric power	29.2	43.0	58.4	130.6
Pipelines	2.5	2.6	2.8	7.9
Petroleum				
Exploration and development	6.3	4.8	4.0	15.1
Refining and marketing	3.9	4.1	4.8	12.8
Oil sands	1.5	.2	.1	1.8
Coal(a)	.8	1.5	.9	3.2
Energy investment	44.2	56.2	71.0	171.4
Estimated GNP	912.1	1,162.0	1,438.5	3,512.6
Energy investment as per cent of GNP	4.8	4.8	4.9	4.9

a The estimates related to coal do not include estimates of new investment necessary to upgrade transportation systems.

Source Energy, Mines and Resources, Financing Energy Self Reliance, 1977, p. 108.

Chart 1
Components of Energy Investment: 1976-1990 (High-Price Scenario)

(Billions of 1975 Dollars)



Source EMR Report, p. 107.

Table 2
Canadian Investment and Savings: 1976-1990

Year	Housing and social capital: Housing	Social	Total	Industrial capital: Energy	Other industries	Total	Total capital	Energy capital as a per cent of industrial capital	Gross national expenditure	Total capital as a per cent of GNE	Net capital inflows	Domestic savings	Domestic savings as a per cent of GNE
	(Billions of dollars)												
1964	2.4	2.0	4.4	1.3	5.5	6.8	11.2	19.1	50.3	22.3	.8	10.4	20.7
1976	11.4	6.6	18.0	7.7	17.5	25.2	43.2	30.6	184.5	23.4	4.9	38.3	20.8
1977	12.5	6.8	19.3	9.4	17.0	26.4	45.7	35.6	205.1	22.3	4.3	41.4	20.2
CAGR(a) 1964-1977	+13.5	+9.9	+12.0	+16.4	+9.1	+11.0	+11.4		+11.4				
1978	13.8	7.5	21.3	10.7	19.3	30.0	51.3	35.7	228.8	22.4	4.5	46.8	20.5
1979	15.3	8.2	23.5	12.2	22.4	34.6	58.1	35.3	254.9	22.8	4.6	53.5	21.0
1980	16.9	8.9	25.8	13.4	25.4	38.8	64.6	34.5	281.7	22.9	4.7	59.9	21.3
1981	18.6	9.7	28.3	15.5	29.0	44.5	72.8	34.8	309.3	23.5	4.8	68.0	22.0
1982	19.9	10.5	30.4	17.8	31.2	49.0	79.4	36.3	338.6	23.4	4.9	74.5	22.0
1983	21.6	11.3	32.9	20.5	35.0	55.5	88.4	36.9	370.9	23.8	5.0	83.4	22.5
CAGR(a) 1978-1983	+9.4	+8.5	+9.1	+13.9	+12.6	+13.1	+11.5		+10.1				
1984	23.7	12.1	35.8	23.4	39.0	62.4	98.2	37.5	405.4	24.2	5.5	92.7	22.9
1985	26.0	13.0	39.0	26.4	43.8	70.2	109.2	37.6	443.1	24.6	6.0	103.2	23.3
1986	28.6	13.9	42.5	29.8	49.3	79.1	121.6	37.7	484.3	25.1	6.5	115.1	23.8
1987	31.0	14.9	45.9	33.7	55.2	88.9	134.8	37.9	529.3	25.5	7.0	127.8	24.1
1988	33.7	16.0	49.7	38.4	61.7	100.1	149.8	38.4	578.6	25.9	7.5	142.3	24.6
1989	36.5	17.1	53.6	42.2	69.1	111.3	164.9	37.9	632.4	26.1	7.5	157.4	24.9
1990	39.6	18.3	57.9	46.5	77.4	123.9	181.8	37.5	691.5	26.3	7.5	174.3	25.2
CAGR(a) 1983-1990	+9.0	+7.1	+8.4	+12.4	+12.0	+12.2	+10.8		+9.3				
CAGR(a) 1977-1990	+9.3	+7.9	+8.8	+13.1	+12.3	+12.6	+11.2		+9.8				

a Compound annual growth rate, per cent.
Source The Toronto Dominion Bank, "Energy Investment and The Canadian Economy"
Occasional Papers from The Department of Economic Research, Vol. 6, No. 2, June 1977.

Table 3
Estimated Energy-Related Capital Requirements: 1977-1987
(High-Price Scenario)

	Endogenously generated	Exogenous addition	Total	Proportion of gross national product
	(Billions of 1971 Dollars)			(Per cent)
1977	3.59	1.50	5.09	4.2
1978	3.81	1.60	5.41	4.3
1979	4.08	2.70	6.78	5.1
1980	4.18	3.65	7.83	5.6
1981	4.52	4.30	8.82	6.0
1982	5.04	4.80	9.84	6.4
1983	5.28	5.60	10.88	6.7
1984	5.59	7.20	12.79	7.5
1985	5.85	6.45	12.30	7.0
1986	6.05	3.50	9.55	5.3
1987	6.29	2.85	9.14	4.9
Total	54.28	44.15	98.43	

Source D. K. Foot et al., The Ontario Economy 1977-1987, Ontario Economic Council, 1977, p. 77.

Table 4
Canadian Energy Capital Expenditures 1976-1990 (Scenario A)

Year	Petroleum exploration and development	Oil sands and heavy oils	Refining	Natural gas and oil marketing and distribution	Pipelines	Coal	Electric Power	Total energy
1976-1980	10,580	2,995	1,430	2,510	5,710	780	21,700	45,705
1981-1985	15,450	2,275	1,035	3,080	19,205	1,485	32,300	74,830
1986-1990	14,240	305	1,340	3,455	3,045	990	37,200	60,575
Total	40,270	5,575	3,805	9,045	27,960	3,255	91,200	181,110

Source EMR Report, p. 10 (see Table 1).

3. DEMOGRAPHY AND HOUSING REQUIREMENTS: 1977-2000

In March of 1978 the CMHC published a series of projections for Canadian housing requirements to the year 2000. The CMHC projections were based on a set of fairly standard assumptions and population projections for Canada. The standard series of assumptions covered net immigration, fertility rates, mortality rates, marriage rates, divorce rates, and headship rates.

In the case used for the purpose of its report, the CMHC study assumed a net level of 80,000 immigrants in 1978, increasing to 90,000 in 1979 and remaining at 100,000 per annum thereafter. In its projection, Canada's population rises from 23.1 million in 1971 to 24.3 by 1981 and 27.3 million by 1991.

In terms of the underlying housing demand requirements, the important demographic variables are the number of new households formed annually and the existing stock of unsold housing units. For example, according to the CMHC study, household formation accounted for about 86 per cent of total housing requirements in 1977. The small residual housing requirements (14 per cent) were accounted for by the demand for replacement housing and allowances for vacancies.

Since it is the household formation figures that are so critical, the net household formation statistics themselves can be broken down into two categories - family formation and non-family formation households. As a result of the post-war baby boom, net family formation is projected to have increased rather sharply in the second half of the 1970s. It is clear that this trend is due mainly to the post-war baby boom group attaining the prime ages for family formation in the second half of the 1970s. But beyond 1982 there is a decline in net household formation resulting from the decline in fertility rates during the 1960s and early and mid-1970s.

The number of households headed by single persons increased rapidly during the first half of the 1970s as a result of both social and economic developments. Despite this trend, the CMHC projection suggests that the households headed by unmarried individuals will tend to decline through the 1980s. That is, there is a combination of increasing net family household formation until 1982 and declining non-family household formation, which results in a peak of total household formation of 227,944 in the year 1980. After 1982, with both components declining, a trough of 110,975 new household formations is reached by the year 1997. It is precisely because of these declining trends in household formation that the housing requirements are expected to decline.

In the accompanying projections, total housing requirements peak in 1980 at 266,000 units, a demand of which will partly be met by the construction of mobile homes. Afterwards, a substantial decline in housing requirements is projected through the 1980s and part of the 1990s re-

flecting the downward trend of net household formation over the same period (see Table 5).

As Table 6 below indicates, some rather significant geographical shifts occur within this projection of declining housing requirements. In 1977, it was estimated that Quebec accounted for about 23.6 per cent of housing requirements. Quebec's share is projected to decline to 21.1 per cent of national requirements in 1985 and to a dramatically low 7.9 per cent figure in the year 2000. Ontario sustains its relative proportion of the national picture. Alberta and British Columbia will make up much of the relative losses to be experienced by Quebec. Stated in another way, while the absolute change in regional housing requirements is expected to be negative in every major region of Canada between 1977 and the year 2000, Quebec will suffer the greatest absolute decline in housing requirements - from an absolute level of about 52,000 units in 1977 to less than 9,000 units by the year 2000. Over the shorter time interval, 1977 through 1985, the greatest relative declines in housing requirements will occur in Saskatchewan, Quebec, and Manitoba.

The low housing requirement figures for the province of Quebec stem from the net migration assumptions as well as from the attendant population projections by province. For example, in the CMHC study, it was estimated that Canada would attract 80,000 net immigrants in 1978, more than 50 per cent of whom would move directly into Ontario. Quebec's share of net international migration in 1978 was expected to be only a little bit higher than Alberta's.

In terms of interprovincial migration, possibly the most important element in the regional forecast is the assumption that Quebec will lose 25,676 people in 1978, 23,416 in 1979, and will continue to lose at the rate of 16,635 per year after 1982. Ontario also becomes a net loser in terms of interprovincial migration, though the net losses are not as severe as Quebec's. In this picture, Alberta and British Columbia prove to be the big gainers in terms of interprovincial migration, with Alberta and British Columbia gaining during the post-1982 period - 18,669 and 10,083 per annum respectively.

Table 5
Summary of Projected Housing Requirements for Canada: 1977-2000

Year	Heads of households			Demolitions	Allowance for vacancy	Total requirements
	Family	Non-family	Totals			
1977	146,040	74,313	220,353	25,090	10,691	256,134
1978	149,499	72,744	222,243	25,763	10,779	258,785
1979	154,269	71,315	225,584	26,318	10,915	262,817
1980	158,542	69,404	227,944	27,047	11,001	265,994
1981	160,021	65,769	225,790	27,774	10,881	264,445
1982	160,538	61,547	222,085	28,358	10,683	261,126
1983	159,842	56,468	216,310	28,895	10,393	255,598
1984	157,881	50,112	207,993	29,505	9,975	247,473
1985	154,378	42,867	197,245	30,110	9,442	236,797
1986	149,236	35,750	184,986	30,848	8,838	224,672
1987	142,761	29,790	172,551	31,598	8,229	212,378
1988	135,515	24,885	160,400	32,376	7,639	200,415
1989	128,032	21,344	149,376	33,073	7,104	189,553
1990	120,843	19,052	139,895	33,893	6,644	180,432
1991	114,408	18,593	133,001	34,851	6,304	174,156
1992	108,393	19,096	127,489	35,667	6,037	169,198
1993	103,149	19,190	122,339	36,727	5,788	164,854
1994	98,291	18,852	117,143	37,870	5,538	160,551
1995	94,117	19,532	113,649	39,103	5,376	158,128
1996	90,968	20,776	111,744	40,396	5,288	157,428
1997	88,382	22,593	110,975	41,450	5,263	157,688
1998	86,504	24,607	111,111	42,645	5,282	159,038
1999	85,374	26,539	111,913	43,994	5,333	161,240
2000	84,771	28,613	113,384	45,345	5,415	164,144

Source CMHC, Housing Requirements Model: Projections to 2000, March, 1978, p. 24.

Table 6
Regional Housing Requirements: 1977-2000

	1977		1985		2000		Percentage Change		
	Number	Per cent of total	Number	Per cent of total	Number	Per cent of total	1977-1985	1985-2000	1977-2000
Newfoundland	2,912	1.3	3,569	1.8	1,427	1.2	22.6	-60.0	-51.0
Prince Edward Island	956	.4	1,048	.5	843	.7	9.6	-19.6	-11.8
Nova Scotia	5,386	2.4	5,890	2.9	3,252	2.9	9.3	-44.8	-39.6
New Brunswick	5,176	2.3	5,991	3.0	4,442	3.9	15.7	-25.8	-14.2
Quebec	52,051	23.6	41,700	21.1	8,979	7.9	-19.9	-78.5	-82.7
Ontario	78,572	35.6	71,753	36.4	42,728	37.7	-8.7	-40.4	-45.6
Manitoba	7,574	3.4	6,316	3.2	3,804	3.3	-16.6	-39.8	-49.8
Saskatchewan	9,695	4.4	6,227	3.1	4,313	3.8	-35.8	-30.7	-55.5
Alberta	29,512	13.4	26,980	13.7	23,643	20.8	-8.6	-12.4	-19.8
British Columbia	28,268	12.8	27,209	13.8	19,524	17.2	-3.7	-28.2	-30.9
Canada(a)	220,353		197,245		113,384		-10.5	-42.5	-48.5

a The national figures include the Yukon and Northwest Territories.

Source CMHC, Housing Requirements Model: Projections to 2000, March, 1978, p. 21.

4. THE ECONOMY, THE CONSUMER, AND THE INFLATION OUTLOOK: THE 1980s

a) Introduction

During the early 1970s when the Canadian dollar was trading at about parity with the U.S. dollar, Canada experienced a strong period of real consumer spending. This strong consumer demand growth, which ended in 1975, was fuelled by a rather remarkable rate of growth in real wages accompanied by reasonably rapid growth rates in employment. Both of these factors more than offset the rise in the savings propensity of Canadian families, thus allowing real consumption to advance at historically high rates of increase.

However, the sluggish growth in consumer spending since 1975 has been accompanied by relatively poor performance for the entire economy and a widening gap between actual and potential output.

Since the mid-1960s, real wages have increased at about twice the rate of increase in real labour productivity, a development not consistent with longer-run economic relationships. Even with the arrival of economic stagnation after 1973, significant real wage gains were recorded in 1974 and 1975. Since 1976 these gains have been eroded by decelerating money wage increases and continuing high inflation rates (see Table 7).

What is important at this time is the possibility that real wage gains in the immediate future, say until the mid-1980s, will trend at a lower rate of increase than during the decade which ended in 1976. The factors at work squeezing real worker earnings are inevitably the same factors which will squeeze real consumption and hence the growth of the economy. Since the consumer sector represents about 63 per cent of Canada's gross national expenditures the strength of consumer spending in the 1980s will reflect the general strength of the economy.

What are the factors which typically impact on consumer spending decisions? Economists typically evaluate consumer spending in terms of several basic ingredients - wage and price movements, employment gains, the public's propensity to save or spend, and the general level of confidence. It follows that the joint interaction of these factors must be in the right direction to generate strong consumer spending. At this point the employment effect and the savings decisions will be dealt with in a very summary fashion. On the employment front, job creation was fairly rapid through most of the 1970s, though since 1975 the general economic malaise has been associated with lower rates of gain in new jobs. In 1978, over 400,000 new jobs were created, but employment growth has been trending at a lower rate in the latter part of the 1970s. This report notes that in the future, job creation must be modest as full capacity economic growth rates are expected to moderate in the 1980s from the 1970s.

The sharp increase in the personal savings rate out of disposable income in the 1970s moderated the levels of consumer spending prospects. While this report deals with this subject later on, it is evident that the high savings rate in Canada is associated with tax deferment incentives (RRSPs, RHOSPs, etc.), and a high inflation environment. It also may reflect the shift of medical care expenses from the consumer to the provincial purse.

The wage and price impacts are explored in the following section.

b) Prices and Costs in the 1980s

(i) Wages

On the wage front, it is clear that the relatively large gains of the early and mid-1970s now represent an era which has passed. One source of rapid wage escalation between 1966 and 1975 was the public sector which now appears likely to lag behind the private sector in terms of money wage gains. Indeed, in early 1979 concerns over money wage escalation were primarily focused on the private sector. In this report money wages are projected to increase 7.7 per cent per annum over the period 1978 to 1985.

(ii) Energy Prices

In a 1976 statement, the federal government announced its intention to move Canadian oil prices to a comparable level with the international prices set by OPEC (The Organization of Petroleum Exporting Countries). Since that time the well-head price in Canada has subsequently risen by $4/bbl. to the current level of $12.75/bbl. (effective July 1, 1978). After transportation and gathering costs are added, the delivered price into eastern Canada is $13.70/bbl.

The federal government and the province of Alberta have agreed that the current well-head price of $12.75/bbl. will remain until July 1, 1979. It will be increased then by $1/bbl. with a second $1/bbl. rise planned for January 1, 1980. This will bring the average well-head price to $14.75/bbl. and the delivered price into both Toronto and Montreal to $16.55/bbl. (including an $.85/bbl. surcharge to refineries to compensate for the world prices received by the two tar sands producers).

The government also announced its intention to increase natural gas prices to an energy equivalent price with oil. In November of 1975, the Toronto city gate price was established at $1.26/mcf which was 85 per cent of the commodity value of oil. The gate price has subsequently been raised four times and is now $1.85/mcf (88 per cent of its oil equivalent).

These resulting energy price increases have had a sharp inflationary impact on other prices and costs. Indeed, it is estimated that for

every $1 a barrel increase in Canadian crude oil prices, there is about a .6 per cent hike in the Consumer Price Index.

(iii) Food Prices

Another important element in the recent rapid rise in Canada's cost of living has been the instability of agricultural markets and food prices. Food purchases by Canadian consumers have represented a growing proportion of their total spending. Since 1970, the sharp increases in the Consumer Price Index were largely the result of higher food costs. In a nutshell, since 1972, the rate of increase of food prices in Canada has been unusually high. For example, food price increases in the consumer cost-of-living basket tended to fall between the price hikes of consumer goods (on the low side) and consumer services (on the high side). That relationship appeared to break in 1971 as food prices averaged 14.6 per cent annual rates of increase between 1973 and 1975. Food prices rose 2.7 per cent in 1976, 8.3 per cent in 1977, and 17 per cent in 1978.

Thus in the slower world economic growth environment, food prices are continuing to rise at double the rate of increase posted in the 1960s. Moreover, compounding the problem of higher prices in the future is the fact that energy is an important factor in the cost of producing agricultural products. Food prices can no longer be regarded as a stabilizing factor in consumer prices as they were between 1966 and 1971, when they rose at a marginally lower rate of increase than non-food items.

(iv) The Trade-off between Inflation and Unemployment

In terms of the unemployment inflation trade-off models, the Canadian and U.S. experience since the early 1960s has been one of progressively deteriorating alternatives. That is, progressively higher levels of employment are required to maintain a given level of inflation, and it does not follow from past trends that the trade-off options will improve.

It used to be thought that when inflationary expectations rise and the trade-off between unemployment and inflation worsens (virtually the experience of the 1971-1975 period), a scaling down of such inflationary expectations to former lower levels would restore original and more acceptable inflation unemployment options. Indeed, the rationale for short-term incomes policies was predicated on a model which viewed a reduction of inflation expectations as consistent with the restoration of better trade-off options between inflation and unemployment.

However, the movements of this trade-off curve appear asymmetrical. That is, inflationary expectations in the United States declined after the 1974-1975 recession, but the unemployment rate accompanying the current 6-8 per cent rate of inflation has been well in excess of that pre-

dicted by a return to better trade-off options based on the 1969-1970 experience. It is interesting to speculate as to why the unemployment-inflation trade-off option has not only progressively worsened between 1971 and 1975, but appears to be incapable of being completely restored to where it once existed. Ottawa would be happy to be able to restore the range of unemployment-inflation alternatives it had back even in 1970 - yet it appears that this goal is virtually unattainable.

In our opinion market power, both in the product and labour markets, has created an extra degree of rigidity in the system following every wave of inflation. As a result of stop-go policies, there has been a continual upward movement in the application of such powers which in effect increases the inflation plateau from which the next inflation cycle commences. Thus the rate of price inflation in the late 1970s, consistent with a given unemployment rate, has ratcheted up considerably from that of the middle 1970s. The fact that Canada has experienced such dramatic inflation rates since 1972 has shortened labour contracts and introduced escalation features into both corporate contracts and business-government relationships.

If a new round of inflation is triggered by events external to Canada, as was the case in 1973-1974, such inflationary shocks will move even more swiftly into labour markets, administrative prices, and interest rates, than they did in the mid-1970s. The Canadian public has become increasingly conscious of inflation and a host of defences have been built into contractual arrangements against possible changes in prices.

(v) An Inflation Projection Based on Domestic Costs and External Factors

In 1977 and 1978 Canada moved a long way towards bringing its domestic costs under control (and moderating its internal inflation factor), but external inflation was the significant problem. In 1977 and 1978 the twin facts that U.S. inflation remained stubbornly high (above 6 per cent), while at the same time Canada's dollar declined sharply relative to the U.S. dollar (7.3 per cent in 1977, 6.8 per cent in 1978) have contributed to higher import costs and higher domestic inflation in 1977 and 1978.

Canada is an open economy, and thus its rate of inflation is a product of both internal and external inflation forces. Since 1970, the pattern of inflation in Canada could be fairly well explained by a rough 30 per cent external and 70 per cent internal weighting scheme.

On the domestic front, the internal inflation pressures can be explained roughly by the simple difference between the rates of change in Canadian money wage settlements and Canada's labour productivity growth rate. That is, it is argued here that movements in unit labour costs ultimately set the stage for domestic-induced price hikes. The figures

presented in Table 8 below imply the following rough approximation vis-à-vis inflation determination: that is, the percentage change in the GNP deflator equals .7 times the difference between the percentage change in wage settlements and productivity changes plus .3 times the percentage change in the Consumer Price Index plus the percentage change in the external value of the Canadian dollar.

It may be helpful at this stage to develop some simple arithmetic relationships which describe the interaction of the two underlying inflation components. Since the bulk of Canada's foreign trade occurs with the United States, that country's consumer inflation rate is employed as a proxy for world price movements. Moreover, movements in the relative price of the Canadian dollar against the U.S. dollar have an inflationary effect which can also be regarded as external in origin. For example, the estimated 6.8 per cent decline in the average value of the Canadian dollar in 1978 relative to 1977 indicates that the Canadian consumer paid (.3 X 6.8) or about 2 per cent more in Canadian dollars for a basket of U.S. goods and services in 1978 than in 1977.

This specific identification of the role of foreign inflation in Canada's price indices is perhaps too simple in that the effect of foreign prices on our domestic scene varies with the business cycle, and is not static (firms vary their price mark-up over unit labour costs with business conditions as well). Nevertheless, even with all its drawbacks, this framework illustrates the way in which both positive and negative factors work in the Canadian inflationary process.

Looking ahead, the prospects for Canadian inflation do not appear very satisfactory, despite the improved labour cost scene which has recently emerged. The simple arithmetic demonstrates this case.

The projections illustrate a blend of assumptions which could result in an average 5.5 per cent per annum rate of inflation between 1978 and 1985, and an average 5 per cent rate of inflation over the period 1985-1990. In fact, the price level over these twelve years more than doubles, and the 5.3 per cent average inflation projection between 1978 and 1990 is somewhat less than the rough estimates of the inflationary-expectations component in the longer-term yields in Canada.

(vi) Inflation Projection Based on Quantity Theory

The interaction between the money supply, inflation, real GNP, and the income velocity of money can be dissected in terms of an identity called the equation of exchange. If the above terms are represented by index numbers - that is, if the price index is called P, the money supply index M, the velocity of money V, and real GNP is T, then the national accounting expression MV=PT must hold. Stated in another way, the supply of nominal GNP (PT) must equal the demand for nominal GNP (MV). Alternatively, a dynamic expression for the equation of exchange

states that the sum of the rates of change in the money supply (M) and the velocity of money (V) must equal the sum of the rates of change in prices (P) plus real GNP (T). The long-run theory that inflation is a monetary phenomenon usually is postulated by assuming long-run output (T) is independent of movements in the money supply (M). In our work, though, we have allowed for a continuous rise in the ratio of GNP to money stock - a trend pervasive in the 1970s.

In the final analysis all economists accept a long-run relationship between the growth rate of the money supply and the rate of inflation. Our projection, which encompasses about a ten-year time span, is no different. It is specifically assumed that the narrowly defined money supply (M) will increase at a 7.7 per cent annual rate between 1978 and 1985, and at a 6.4 per cent annual rate between 1985 and 1990. With the income velocity of money (the ratio of GNP to M1) rising at an average annual rate of 2.5 per cent, this forecast generates a gain in the GNP price index of 5.5 per cent per annum until 1985 and 5 per cent per annum over the remaining years of the decade. If the money supply (M1 definition) does not become more efficient (that is, if the income velocity of money does not increase), then of course the rate of inflation will be lower assuming the above money supply growth rates.

The above projected rates of inflation were derived by estimating the longer-term growth in Canada's real GNP on the basis of labour force and productivity projections. Once again, an explanation of relationships must be made. It is assumed that Canada's work-force and labour force will grow at approximately the same rate in the 1980s. In a physical sense, real GNP can be defined as output per worker (or labour productivity) multiplied by the size of the work-force. This is why the rate of change in real GNP can be approximated by the long-term rate of change in the labour force plus the rate of change in labour productivity. In this study the Department of Finance's assumptions on labour force growth moderation in the 1980s accompanied by steady 2 per cent per annum productivity growth rates are adopted. The accompanying projections for real GNP, inflation and nominal GNP are set out in the last three columns of Table 10.

According to these projections, the rate of growth of GNP in current dollars is sharply lower during the decade of the 1980s and the first half of the 1990s. The difference reflects partly a slower growing real economy - particularly after some GNP catch-up occurs between 1978 and 1985. As well, the assumptions concerning inflation for the 1980s were discussed earlier - and they indicate that the inflation in the 1980s will average at a lower pace than the 1970s experience, because of a moderation in the rate of expansion of the money supply.

Table 7
Relationship between Real Wage Gains, Consumption, and Labour Productivity: 1970-1977 (Average Annual Rates of Change)

	Real consumption	Real output/worker (productivity)	Real wages
		(Per cent)	
1970-77	6.0	1.9	1.9
1977	2.8	.9	.7

Notes: Real output/worker uses real GNP as a numerator and total employment in the demoninator.

Real wages uses money wage settlements (ex construction) and the implicit price deflator.

Source Bank of Canada Review, December 1978.

Inflation Determination in Canada 1963-1977 and a Forecast 1978-1990

	External factors			Domestic factors			Weighted sum internal and external factors	
	Per cent change Canadian/U.S. dollar	Per cent change U.S. CPI	Sum external factors	Per cent change wages(a)	Per cent change labour productivity	Sum internal factors		Per cent change GNP deflator
	(1)	(2)	(3)=2-1	(4)	(5)	(6)=4-5	(7)=(.3x3)+(.7x6)	(8)
1963	.0	1.2	1.2	3.1	2.7	.4	.6	1.8
1964	.0	1.3	1.3	4.7	2.9	1.8	1.6	2.5
1965	.0	1.7	1.7	5.4	2.7	2.7	2.4	3.3
1966	.0	2.8	2.8	7.9	2.6	5.3	4.5	4.4
1967	.0	2.9	2.9	8.3	-0.2	8.5	6.8	3.9
1968	.0	4.2	4.2	7.9	3.6	4.3	4.3	3.3
1969	.0	5.4	5.4	7.7	2.0	5.0	5.1	4.4
1970	+3.2	5.9	1.7	8.5	1.2	7.3	5.6	4.7
1971	+3.3	4.3	1.0	7.8	3.1	4.7	3.6	3.1
1972	+1.9	3.3	1.4	7.9	2.8	5.1	4.0	5.0
1973	-1.3	6.2	7.5	9.8	2.1	7.7	7.6	9.1
1974	+2.2	11.0	8.8	14.3	-0.8	15.1	13.2	15.3
1975	-4.1	9.1	13.2	17.1	-0.6	17.7	16.4	10.7
1976	+3.2	5.5	2.3	10.2	3.2	7.0	5.6	9.7
1977	-7.3	6.5	13.8	7.8	.8	7.0	9.0	6.9
f 1978	-6.8	7.5	14.3	6.5	.2	6.3	8.7	7.0
f 1978-1985	.96	6.0	5.0	7.7	2.0	5.7	5.5	5.5
f 1985-1990	.0	5.0	5.0	7.0	2.0	5.0	5.0	5.0

a Total industries excluding construction.

f Forecast Assumptions: 1978-85 - The Canadian dollar rises from an average $.88 U.S. in 1978 to $.93 U.S. by 1985.
1985-90 - The Canadian dollar stabilizes at $.93 U.S.

Note: Since in the long run inflation is a purely monetary phenomenon, this inflation projection is consistent with a 7.3 per cent annum M1 growth 1978 to 1985, and an 6.4 per cent annual growth 1985 to 1990.

Source The historical statistics were taken from the Department of Finance, Economic Review, 1978. The projections are based on a series of assumptions set out in the text.

Table 9
The Money Supply Counterpart of the Inflation Forecast, Average Annual Rates of Change, 1967-1977 and 1978-1990

	(1) GNP price index	(2) Money supply (M1)	(3) Income velocity of money	(4) Real GNP
1967-1977	7.2	9.5	2.5	4.7
1978(e)	7.0	7.0	3.7	3.5
1978-85(f)	5.5	7.3	2.5	4.3
1985-90(f)	5.0	6.4	2.5	3.6

Note: The dynamic equation of exchange holds that the rate of change in inflation equals the combined rates of change in the money supply plus income velocity of money less the rate of change in real output. That is, (1) = (2) + (3) - (4). Income velocity of money is the ratio of GNP to money supply.

e Estimated

f Forecast

Source See Table 8. The assumptions used on the forecast are explained in the text.

Table 10
Aggregate Projections for Productivity, Labour Force, Real and Nominal GNP, Average Annual Rates of Growth, 1970-1978 and 1978-1995

	Labour force	Worker productivity	Real GNP	GNP price deflator	Nominal GNP
1970-1978(e)	3.8	1.5	4.6	8.3	13.3
1978-1985(f)	2.0	2.3	4.3	5.5	10.0
1985-1990(f)	1.6	2.0	3.6	5.0	8.9
1990-1995(f)	1.1	2.0	3.1	4.0	7.2

Notes: The growth rate of GNP is approximately equal to the sum of the growth rates of the labour force and aggregate productivity. The labour force projections, taken from a Department of Finance study, assume net immigration into Canada at 100,000 persons per year.

e Estimated

f Forecast

Source The assumptions used in this forecast are constrained to generate a profile of real GNP growth consistent with the forecasts presented in Tables 8 and 9.

5. A REVIEW OF A SERIES OF AGGREGATE ECONOMIC FORECASTS: THE 1980s

a) The Economic Council of Canada's 12th Annual Review

The 12th Annual Review of the Economic Council of Canada, which was published in 1975, set out a series of ten-year projections for the growth in the economy and its major components. The Council's case A projections are reported here.

According to the Council, real (non-housing) capital investment will prove to be the strongest growth sector over the entire period to 1985, averaging a 5.9 per cent annual rate of growth. Real consumer spending will advance at about a 5 per cent rate, while investment in housing will seriously lag the rest of the economy. The Council predicted that real GNP would increase at an average annual growth rate of 4.6 per cent over the period 1975 to 1985. The Council also expected a significantly lower rate of growth for the real economy between 1980 and 1985 as compared to the 1975 to 1980 period (see Tables 11 to 17).

b) The Economic Council of Canada's 14th Annual Review

In its 14th Annual Review, the Economic Council of Canada produced a scenario for the 1977 through 1982 period. Based on a series of assumptions incorporated into the Council's macro-economic model, the

projections reveal that the outlook for the next five years is not very promising. The Council projected a modest export-led recovery in 1978 and 1979, but at the same time the growth in GNP would gradually slow to about 4 per cent by 1982. In the scenario, moderate economic growth results in relatively high unemployment rates above 8 per cent throughout the period. The Consumer Price Index is projected to increase at an annual rate in excess of 6 per cent until 1982, reflecting anticipated high inflation rates in other countries and continued pressures on domestic prices. In the projection, the assumption of a U.S. exchange rate value for the Canadian dollar of $.93 was incorporated (see Tables 11 to 17).

c) The Department of Finance Medium-Term Projection: 1978-1981

The Department of Finance set out in its projection what it believed to be the likely recovery path for the Canadian economy over the short term. In the four-year projection, the Department noted that it expects real gross national product to expand at a 5.5 per cent average rate from 1978 to 1981. This rate of growth would reduce the unemployment rate to 5 per cent and the rate of inflation to 3.5 per cent by 1981. The average unemployment rate and the average rate of inflation would, of course, be higher during the four-year interval.

The assumptions about the global economy used in the projection are crucial because of Canada's open economy and dependence upon export sales. Between 1978 and 1981, the Department of Finance assumed that the industrial world would enjoy a moderate but steady recovery. Real GNP in the United States would advance at a 4.3 per cent average annual rate over this period, while Western Europe would have a 4 per cent growth rate, and Japan a 6 per cent rate. U.S. wholesale prices were predicted to rise at a 5.4 per cent average, and world oil prices would rise at a similar 5.5 per cent annual rate. A moderate recovery in commodity prices was assumed and the Canadian dollar would average about $.93 U.S. in foreign exchange markets during the four-year period.

An important part of the forecast was the continuation of the projected slow-down in money wages and unit labour costs, which provided an important boost for corporate profits in this scenario. In terms of the components of growth, the Department of Finance expects fairly rapid growth in non-residential business investment and exports to lead the recovery. A continuation of the trend of slow growth in government spending is projected and the Department believes that if inflation slows to the degree that they have projected, this will cause a decline in the personal savings rate to 8 per cent by 1981 from its 10.5 per cent average between 1974 and 1976. In essence, the scenario projected by the Department of Finance is too optimistic on both the production and price sides, and hence it is probably too optimistic for employment and labour productivity trends.

d) The Ontario Economic Council Projection

The Ontario Economic Council study, which was published in 1977, was a fairly comprehensive review of the outlook for the Canadian and Ontario economies. The basic assumptions made were that the recovery from the 1975 recession would be slow, and that withdrawal from the controls program in 1978 would be orderly and not followed by a post-controls acceleration of price inflation. The OEC also accepted the high-price scenario for domestic energy prices which was originally set out in the EMR Strategy Document.

Under the assumption of a slow recovery from the recessionary conditions of 1975, real GNP was projected to increase at an average annual rate of 5 per cent between 1978 and 1982. After the energy investment boom peaks around 1982, real GNP growth rates are expected to decline to an average annual rate of 4 per cent for the five years to 1987. A continuously declining rate of increase in the gross national product deflator from an 8.1 per cent average annual rate of increase in 1975 to a 4.7 per cent annual rate between 1978 and 1982 and 4.4 per cent annual rate from 1982 to 1987 was also projected. The national unemployment rate gradually declines in the OEC scenario, from an average of 7.7 per cent between 1978 and 1982 to a 6.1 per cent unemployment rate average for the period 1983 through 1987.

Real GNP growth is seen to be decelerating from the late 1970s through to the late 1980s. The sources of this deceleration are weaknesses in capital investment and government expenditures. For example, total investment in business fixed capital expands at a rapid pace between 1978 and 1982 (7.5 per cent per annum) and declines sharply to a rate of 2.4 per cent per annum between 1983 and 1987.

Table 11
Alternative Economic Projections for the Medium Term, (Average Annual Growth Rates), Various Periods 1975-1987

(1) Economic Council of Canada - 12th Annual Review (Projection A)

	1975-1980	1980-1985	1975-1985
		(Per cent)	
Real GNP	5.7	3.6	4.6
Nominal GNP	12.2	9.8	11.0
GNP Deflator	7.1	5.9	6.1
Consumer Price Index	7.0	5.2	6.2

(2) Economic Council of Canada - 14th Annual Review (Reference Solution)

	1977-1982
	(Per cent)
Real GNP	4.3
Consumer Price Index	7.1
Unemployment Rate	8.2
U.S. Exchange Rate of Canadian Dollar	$ .93

(3) Department of Finance, February, 1978

	1978-1981
	(Per cent)
Real GNP	5.5
"Prices"	4.7
Average Wages	6.8
Real Wages	2.0
Labour Productivity	2.6
Employment	2.8
Labour Force	2.2

(4) D. Foot, et al., Ontario Economic Council

	1978-1982	1983-1987
	(Per cent)	
Real GNP	5.0	4.0
Nominal GNP	9.9	8.6
GNP Deflator	4.7	4.4
Labour Force	2.4	2.0

Sources

(1) Economic Council of Canada, 12th Annual Review, Projection A, 1975, pp. 146-147.
(2) Economic Council of Canada, 14th Annual Review, Reference Solution, 1977, p. 70
(3) Department of Finance, Canada's Economy - Medium-Term Projections and Targets.
(4) D. Foot, et al., The Ontario Economy 1977-1987, Ontario Economic Council, 1977.

Table 12
Alternative Economic Projections for the Medium Term - Real Consumer Spending, (Average Annual Rates of Change)

Economic Council of Canada, 12th Annual Review (Projection A)
5.6 per cent (1975-1980)
4.4 per cent (1980-1985)
5.0 per cent (1975-1985)

Economic Council of Canada, 14th Annual Review (Reference Solution)
3.9 per cent (1977-1982)

Department of Finance, February, 1978
5.4 per cent (1978-1981)

D. Foot, et al., Ontario Economic Council
4.1 per cent (1978-1982)
4.2 per cent (1983-1987)

Source See Table 11.

Table 13
Alternative Economic Projections for the Medium Term - Real Housing Expenditures, (Average Annual Rates of Change)

Economic Council of Canada, 12th Annual Review (Projection A)
5.5 per cent (1975-1980)
.3 per cent (1980-1985)
1.2 per cent (1975-1985)

Economic Council of Canada, 14th Annual Review (Reference Solution)
Not Available

Department of Finance, February, 1978
1.0 per cent (1978-1981)

D. Foot, et al., Ontario Economic Council
Not Available

Source See Table 11.

Table 14
Alternative Economic Projections for the Medium Term - Real Non-residential Business Investment, (Average Annual Rates of Change)

Economic Council of Canada, 12th Annual Review (Projection A)
8.5 per cent (1975-1980)
3.3 per cent (1980-1985)
5.9 per cent (1975-1985)

Economic Council of Canada, 14th Annual Review (Reference Solution)
4.4 per cent (1977-1982)

Department of Finance, February, 1978
7.4 per cent (1978-1981)

D. Foot, et al., Ontario Economic Council - "Including housing"
7.5 per cent (1978-1982)
2.4 per cent (1983-1987)

Source See Table 11.

Table 15
Alternative Economic Projections for the Medium Term - Real Exports, (Average Annual Rates of Change)

Economic Council of Canada, 12th Annual Review (Projection A)
Not Available

Economic Council of Canada, 14th Annual Review (Reference Solution)
5.7 per cent (1977-1982)

Department of Finance, February, 1978
6.4 per cent (1978-1981)

D. Foot, et al., Ontario Economic Council
5.0 per cent (1978-1982)
4.2 per cent (1983-1987)

Source See Table 11.

Table 16
Alternative Economic Projections for the Medium Term - Real Imports, (Average Annual Rates of Change)

Economic Council of Canada, 12th Annual Review (Projection A)
Not Available

Economic Council of Canada, 14th Annual Review (Reference Solution)
4.4 per cent (1977-1982)

Department of Finance, February, 1978
5.5 per cent (1978-1981)

D. Foot, et al., Ontario Economic Council
4.6 per cent (1978-1982)
4.2 per cent (1983-1987)

Source See Table 11.

Table 17
Alternative Economic Projections for the Medium Term - Real Government Expenditures, (Average Annual Rates of Change)

Economic Council of Canada, 12th Annual Review (Projection A)
Not Available

Economic Council of Canada, 14th Annual Review (Reference Solution)
4.4 per cent (1977-1982)

Department of Finance, February, 1978

Expenditures on goods and services - 3.6 per cent (1978-1981)
Expenditures on capital formation - 4.7 per cent (1978-1981)

D. Foot. et al., Ontario Economic Council
4.8 per cent (1978-1982)
5.0 per cent (1983-1987)

Source See Table 11.

6. A PROJECTION OF THE GROWTH AND COMPOSITION OF REAL AGGREGATE DEMAND: 1978-1990

In order to discuss the capital markets in the 1980s, and basically to allow the demographic factors to shape potential economic growth, one has to make some allowance for the movement of the economy to a fuller level of utilization. A reasonable assumption is that the underemployment of resources which emerged in the late 1970s will undoubtedly be

with us for several years into the 1980s. But once Canada closes that gap of resource underutilization, the demographic trends will generate the tone of growth of the economy.

As for the pattern of aggregate demand over this period, durable consumer expenditures, exports, and energy-related capital projects will spark the economy up until the mid-1980s. In the second half of the 1980s, one may assume that demographic factors will constrain the economy to its full capacity growth rate (and the demographic factors will impact primarily on the economic projections through a slower rate of growth in the labour force). Thus this report concludes that Canada's economy will grow at an average annual rate of 4.3 per cent between 1978 and 1985, and at a 3.6 per cent rate over the balance of the decade. Business investment in machinery and equipment will also be strong throughout the decade, while housing expenditures are projected to lag behind the economy. Accelerated activity in the government and consumer spending sectors other than durables which occurred during much of the 1970s cannot be expected in the 1980s.

Table 18
Projected Growth and Distribution of Real GNP (1971 Dollars) Components in Canada: 1978-1985 and 1985-1990

	Distribution		Average annual growth rate	
	1977	1985	1978-1985	1985-1990
			(Per cent)	
Personal expenditures	63.2	63.3	4.4	3.6
Durable goods	11.1	11.6	4.9	
Semi-durable goods	8.9	9.1	4.7	
Non-durable goods	18.2	17.3	3.7	
Services	25.0	25.3	4.5	
Government expenditures on goods and services	18.2	16.4	3.0	3.6
Gross fixed capital formation	22.3	22.1	4.2	4.6
Government	3.2	2.7	1.8	
Business	19.1	19.4	4.6	
Residential construction	5.0	3.6	.3	
Non-residential construction	6.3	6.6	5.0	
Machinery and equipment	7.8	9.2	6.6	
Exports	23.0	24.7	5.3	3.6
Imports	-26.8	-26.5	4.2	4.6
GNP	100.0	100.0	4.3	3.6

Source These projections were made by the authors and are consistent with the real GNP projections set out in Tables 9 and 10.

7. FINANCIAL INTERMEDIATION AND THE FLOW OF FUNDS

Canada, as a mature industrial economy, generates both a high volume of savings and a high volume of capital formation. The interplay between savings and investment can be framed analytically in terms of a flow of funds accounting statement.

Flow of funds figures provide a means for tracing the movements of funds from the ultimate savers in the economy towards the ultimate spending sectors. Indeed, the statistics set out in Table 19 highlight the flow of savings and the net lending or borrowing positions of thirteen major sectors in the Canadian economy in 1967 and 1977. Though it is not evident in these figures, the thirteen designated sectors both save and spend, but what this study is primarily interested in is their net position.

First, let us consider the savings decision. In 1977, gross savings in Canada for these thirteen sectors amounted to $48.9 billion, representing 23.3 per cent of Canada's GNP. Ten years earlier, the ratio of savings to gross national product was 23.9 per cent. Since savings ultimately finance investment, the ratio of gross fixed capital formation to GNP (which includes in the numerator government investment, housing investment, and business investment in plant and machinery) is identical to the gross savings-GNP ratio.

The figures in Table 19 indicate that the principal saving sectors are the personal (including unincorporated business) and non-financial business sectors which between them contributed over 80 per cent of the flow of savings in 1977. In 1977, unlike 1967, the federal government provided negative savings, while provincial and local governments and hospitals provided a significant proportion of savings in both 1977 and 1967 (11.4 per cent and 11.7 per cent respectively). Even though the contribution of many of the remaining groups to gross savings is relatively small, their role is important in the transfer of funds from the surplus (or net lending) sectors to the deficit (or net borrowing) sectors of the economy. Indeed, these transfers of funds occur not only to finance capital investment, but as well to finance consumer spending and government deficits.

The remaining sectors are the financial intermediaries whose role it is to facilitate the flow of funds between the ultimate borrowing groups and the ultimate lending groups. This intermediary role, the creation of assets and liabilities with little or no gross saving, represents the important role intermediaries take on. It is somewhat difficult to classify the social security system in the same way as the other sectors since it has features which are common both to ultimate lenders as well as to a financial institution which holds personal savings and invests the funds.

The transfer of funds implicit in the financing of government spending and consumer spending is performed within the capital market, which in fact is not a single homogeneous market, but encompasses a number of interrelated financial markets. Thus in this section of the study we consider the bond market, the equity market, and the mortgage market, since in each of these markets various financial assets and liabilites are traded.

The transfer process involves the creation of legal documents which set out the terms of the transfer. These documents become the financial instruments and claims that are traded in the capital market. A typical capital market transaction involves the exchange of money (a key financial asset) for other kinds of assets such as common stocks, preferred stocks, bonds, mortgages, debentures, short-term notes, and deposit certificates. The borrower creates one or more of these types of claims as a liability against itself and then sells it to a lender.

Turning to the figures in Table 20, one observes that the net increase in total financial assets in 1977 was $95.6 billion, or nearly twice as large as the dollar volume of domestic savings, and almost four times as large as the value of net lending. The private financial institutions (banks, near banks, insurance companies, pension funds, and sales finance and consumer loan companies), accounted for one-third of the net increase in financial assets. But the role of private institutions is much greater than this since the liabilities they create constitute a significant proportion of the financial assets obtained by other sectors.

The role of term conversion by the financial institutions is crucial in facilitating the transfer of funds. Savers (or the suppliers of funds) often prefer to purchase financial claims which are short-term, liquid, and offer a low degree of risk. Borrowers, on the other hand, tend to prefer to issue long-term debt, such as mortgages and bonds. The differences in the maturity term requirements of the borrowers and lenders are bridged by the financial intermediaries. The bulk of the liabilities of the intermediaries is short-term, such as deposits and term certificates at the banks and trust companies; whereas a large proportion of the assets of these institutions is long-term, such as business loans, mortgages, and bonds.

The financial institutions profit from their intermediary role because they are able to obtain funds from savers at a lower rate than direct lenders, by offering them a less risky and more liquid security. Institutions are able to borrow on favourable terms and invest the funds by pooling them so as to diversify the risk. Moreover, intermediaries often specialize in the direction of certain industries or asset-liability categories. Thus the role of financial institutions is not restricted to the matching of terms and yields between the ultimate savers and borrowers.

As the process of financial intermediation has matured in Canada, each new institution that has evolved has provided a specialized service to meet the needs of a specific market. For example, through their borrowing and lending activities, chartered banks have provided a medium of exchange to facilitate the growth of domestic trade and other commercial ventures; life insurance companies have offered financial protection as their major service; mortgage loan companies have organized to meet the rapidly developing demand for long-term credit required for the purchase of houses and small businesses; credit unions and caisses populaires populaires have been created to provide satisfactory borrowing and savings facilities for low income individuals; and sales finance and consumer loan companies have entered into the consumer loan market to bridge the gap between credit unions and banks.

It has only been in the post-war period, and especially since the early 1960s, that vigorous competition has grown among the various types of financial institutions. This direct competition has manifested itself in a sharp increase in the number of financial instruments available to savers (such as trust company certificates and certificates of deposit), a narrowing in the gap between the return on assets and the cost of liabilities for these institutions, and a greater degree of sensitivity of interest yields on thrift instruments in response to general market changes.

The increased competition after 1967, together with the possibility of a new environment after 1979 or 1980, ironically will result in less specialization in the future. The specialty shop nature of financial institutions will continue to give way more rapidly to the department store type of institution. Indeed, the pace of this development during the 1980s and the 1990s is expected to increase sharply.

A detailed review of the personal sector (an ultimate lender) and the principal financial intermediaries including pension funds and social security funds is provided in Tables 21 to 27. The personal sector, including unincorporated business, was a net lender in 1977 in the amount of $10.4 billion. More specifically, its net increase in financial assets was in excess of its net increase of liabilities by the $10.4 billion figure. The bulk of the increase in personal assets was in bank deposits, mortgages, bonds, life insurance, and pensions. Mortgage debt represented nearly 70 per cent of the increase in personal liabilities in 1977, with consumer debt and various other loans accounting for the rest of the liability increases for the personal sector (see Table 21).

It was noted earlier that non-financial corporations are a principal borrowing sector in the economy. This business sector increases its liabilities by the issuance of equity, bonds or via direct borrowing. The business sector expands its financial assets mainly through increases in the volume of trade credit and claims on associated enterprises or firms (see Table 22).

Another principal borrowing group in 1977 was the federal government. Its liabilities increased through the issuance of government bonds (including Canada Savings Bonds) and shorter-term treasury bills. The federal government increased its asset holdings, principally through its deposits at the chartered banks and at the Bank of Canada, and via loans to the private sector (see Table 23).

Banks, near-banks, insurance companies, and private pension funds largely play an intermediary role, since their combined net loans (or borrowings) are small in absolute terms. Institutional practices, as well as the legal and regulatory framework in Canada, determine their mix of assets and liabilities. The principal liability items for the chartered banks and the near-banks are deposits. The principal assets of the banking and near-banking sectors are consumer loans, mortgages, bonds, and stocks. Included under the umbrella definition of near-banks are the Quebec Savings Banks, credit unions and caisses populaires, trust companies, and mortgage loan companies. Insurance companies and pension funds include life insurance companies, fraternal benefit societies, and trusteed pension funds (see Tables 24 and 25).

The life insurance companies and the trusteed pension funds were net borrowers in 1977. Their principal liabilities were pension-related liability payments and life insurance. Their assets are distributed primarily towards Canadian holdings of mortgages, bonds, and stocks. Trusteed pension fund assets totalled $24.7 billion (at market value) in 1976. Private pension funds held 46.4 per cent of their assets in bonds, 24.7 per cent of their assets in stocks, and 3.5 per cent of their assets in mortgages in 1976 (see Tables 26 and 28).

Lastly, the figures in Table 27 deal with Canada's social security system. It should be noted that these figures relate basically to changes in assets and liabilities. Thus the figures refer to CPP and QPP, even though, in fact, Canada's social security system includes OAS and GIS as well. The social security system has been a net lender since its inception, and net lending in 1977 amounted to $2.2 billion. Most of the funds were invested in provincial government bonds ($1.6 billion), while $608 million were loaned to associated government enterprises.

Mortgage finance increased in total value by $16.9 billion in 1977 over 1976 levels, as banks, life insurance companies, near-banks, and the trusteed pension funds took up the bulk of new mortgage finance (see Table 29). In 1977, $18.7 billion worth of new bonds were issued, of which over $14 billion were federal, provincial, and municipal bonds. Bonds were sold to the major financial intermediaries, the rest of the world, and the personal sector in 1977. But a key point to note is that the federal social security plan purchased $1.6 billion in provincial government debt in 1977. Indeed, the social security system stood second only to the external sector in terms of provincial government bond financing in that year.

Canada's outstanding consumer credit balances reached $32.4 billion by the middle of 1978, with chartered banks supplying the bulk of these funds. Indeed, the 1967 Bank Act provided the Canadian chartered banks with significant flexibility in the personal lending area, and the bank share of total consumer credit nearly doubled over the past ten years.

Table 19
Summary of Financial Flows: 1967 and 1977 (Millions of Dollars)

Major sector	1977 Gross savings (Millions)	1977 Gross savings Per cent distribution	1977 Net lending or borrowing	1967 Gross savings (Millions)	1967 Gross savings Per cent	1967 Net lending or borrowing
			(Millions)			
Persons and unincorporated business	21,772	44.5	10,390	5,115	32.3	1,959
Non-financial corporations	17,906	36.6	-2,823	5,991	37.8	-1,057
Non-financial government enterprises	1,910	3.9	-5,861	683	4.3	-1,592
Monetary authority	2	.0	- 5	1	.0	- 1
Chartered banks	683	1.4	491	117	.7	72
Near-banks	180	3.7	46	33	.2	1
Insurance companies and pension funds	36	.0	- 74	14	.1	- 38
Other private financial institutions	566	1.2	502	112	0.7	117
Federal government	-6,187	-12.6	-7,443	380	2.4	- 84
Provincial and local governments and hospitals	5,567	11.4	- 557	1,863	11.7	- 827
Social security funds	2,258	4.6	2,258	887	5.6	887
Rest of world	4,580	9.4	4,150	615	3.9	487
Other(a)	- 334	- .7	-1,074	145	.9	76
Total	48,939	100.0		15,855	100.0	

a Other includes public financial institutions and residual error.

Source Statistics Canada, Financial Flow Accounts - First Quarter 1978, Cat. 13-002, Tables 1-4.

Table 20
Summary Statement of Financial Asset Changes: Selected Years 1962-1977 (Net Increase in Financial Assets)

Major sector	1962	1968	1973	1974	1975	1976	1977
				(Millions of dollars)			
Persons and unincorporated business	4,113	5,516	18,246	20,306	22,414	26,266	31,160
Non-financial corporations	1,912	2,900	6,366	8,994	6,559	5,610	6,911
Non-financial government enterprises	79	184	253	1,239	614	2,518	865
Monetary authority	109	580	25	1,455	372	1,611	208
Chartered banks	472	4,121	12,241	12,278	8,542	15,726	14,743
Near-banks	700	1,242	4,842	4,381	5,879	7,681	9,343
Insurance companies and pension funds	1,121	1,651	3,617	4,082	5,027	6,070	6,756
Other private financial institutions	658	1,546	2,098	3,820	2,670	4,414	4,384
Federal government	406	1,650	530	5,895	1,298	1,545	1,757
Provincial and local governments and hospitals	506	1,466	1,423	3,565	3,834	2,368	5,919
Social security funds		1,003	1,472	1,775	1,999	2,183	2,258
Rest of world	1,007	1,952	4,755	3,173	5,964	12,509	8,361
Other(a)						2,807	2,863
Total	11,332	24,745	57,698	73,320	67,885	91,308	95,528

a Other includes public financial institutions.

Source Statistics Canada, Financial Flow Accounts - First Quarter 1978, Cat. 13-002, Tables 1-4, and Financial Flow Accounts, Vol. II, Cat. 13-563.

Table 21
Persons and Unincorporated Business: Changes in Selected Assets and Liabilities: 1975-1977

	1975	1976	1977
	(Millions of dollars)		
Gross saving	17,538	19,187	21,772
Capital consumption allowances	5,498	6,179	6,824
Net saving	12,040	13,638	14,948
Net lending or borrowing	9,293	8,898	10,390
Net increase in financial assets	22,128	26,266	31,160
Currency and deposits	12,468	16,246	17,712
Mortgages	217	2,347	3,634
Bonds	3,241	220	2,813
Stocks	-474	-616	-1,148
Life insurance and pensions	5,114	6,176	6,844
Net increase in liabilities	13,730	19,747	23,767
Consumer credit	3,201	3,851	3,344
Trade credit	1,188	1,496	1,827
Bank loans	830	2,523	2,034
Other loans	134	390	470
Mortgages	8,292	11,475	16,060

Source Statistics Canada, Financial Flow Accounts - First Quarter 1978, Cat. 13-002, Table 2-1.

Table 22
Non-financial Corporations: Changes in Selected Assets and Liabilities: 1975-1977

	1975	1976	1977
	(Millions of dollars)		
Gross saving	13,125	16,110	17,906
Capital consumption allowances	9,168	10,402	11,550
Net saving	3,957	5,708	6,356
Net lending or borrowing	-3,285	-4,504	-2,823
Net increase in financial assets	6,559	5,610	6,911
Currency and deposits	377	1,503	261
Trade credit	3,759	2,276	3,446
Mortgages	7	79	67
Bonds	126	-55	-20
Stocks	-29	23	25
Claims on associated enterprises	1,194	1,452	1,963
Net increase in liabilities	10,608	10,891	12,248
Trade payable	2,523	1,177	1,758
Loans	3,345	3,690	3,019
Bonds	2,112	2,132	2,079
Stocks	960	993	2,230

Source Statistics Canada, Financial Flow Accounts - First Quarter 1978, Cat. 13-002, Table 2-2.

Table 23
Federal Government: Changes in Selected Assets and Liabilities: 1975-1977

	1975	1976	1977
	(Millions of dollars)		
Gross saving	-2,677	-2,043	-6,187
Capital consumption allowances	438	499	571
Net saving	-3,115	-2,537	-6,758
Net lending or borrowing	-3,909	-3,256	-7,443
Net increase in financial assets	1,027	1,545	1,349
Currency and deposits	-752	-823	1,350
Other loans	518	385	620
Claims on associated enterprises	1,093	2,379	237
Net increase in liabilities	4,651	4,298	7,935
Treasury bills	570	1,645	2,470
Bonds	3,416	2,543	5,684

Source Statistics Canada, Financial Flow Accounts - First Quarter 1978, Cat. 13-002, Table 2-32.

Table 24
Chartered Banks: Changes in Selected Assets and Liabilities: 1975-1977

	1975	1976	1977
	(Millions of dollars)		
Gross saving	575	563	683
Capital consumption allowances	80	88	112
Net saving	495	475	571
Net lending or borrowing	389	365	491
Net increase in financial assets	8,542	15,726	14,743
Consumer credit	2,358	3,002	2,554
Other bank loans	4,872	7,094	4,921
Mortgages	1,651	1,346	2,630
Bonds	451	588	1,065
Stocks			1,623
Other assets			
Net increase in liabilities	8,221	15,437	14,238
Currency and deposits	7,771	15,050	13,899
Bonds	-8	23	18
Stocks	179	117	92

Source Statistics Canada, Financial Flow Accounts - First Quarter 1978, Cat. 13-002, Table 2-12.

Table 25
Near-Banks: Changes in Selected Assets and Liabilities, 1975-1977

	1975	1976	1977
	(Millions of dollars)		
Gross saving	126	142	180
Capital consumption allowances	13	13	13
Net saving	113	129	167
Net lending or borrowing	57	25	46
Net increase in financial assets	5,789	7,681	9,343
Consumer credit	545	742	701
Other loans	198	461	20
Mortgages	3,779	5,053	493
Bonds	450	254	223
Stocks	83	93	374
Currency and deposits	522	563	519
Net increase in liabilities	5,820	7,650	9,296
Currency and deposits	5,377	6,620	8,219
Bonds	128	337	209
Stocks	128	151	197
Loans	12	115	298

Source Statistics Canada, Financial Flow Accounts - First Quarter 1978, Cat. 13-002, Table 2-13.

Table 26
Insurance Companies and Pension Funds: Changes in Selected Assets and Liabilities: 1975-1977

	1975	1976	1977
	(Millions of dollars)		
Gross saving	32	35	36
Capital consumption allowances	23	23	24
Net saving	9	12	12
Net lending or borrowing	-93	-130	-74
Net increase in financial assets	5,043	6,070	6,756
Mortgages	1,308	1,718	2,035
Bonds	2,656	2,678	3,112
Stocks	655	964	506
Foreign investments	150	185	53
Net increase in liabilities	5,136	5,200	6,830
Life insurance and pensions	5,136	5,200	6,830

Source Statistics Canada, Financial Flow Accounts - First Quarter 1978, Cat. 13-002, Table 2-8.

Table 27
Social Security Funds: Changes in Selected Assets and Liabilities: 1975-1977

	1975	1976	1977
	(Millions of dollars)		
Total social security funds			
Gross saving	2,003	2,183	2,258
Net saving	2,003	2,183	2,258
Net lending or borrowing	2,003	2,183	2,258
Net financial investment	2,003	2,183	2,258
Net increase in financial assets	2,003	2,183	2,258
Bonds	1,400	1,519	1,654
Government of Canada bonds	10	11	11
Provincial Government bonds	1,390	1,508	1,643
Claims on associated enterprises:			
Government	582	643	630
Other financial assets	21	21	-26
Federal social security funds			
Gross saving	1,473	1,562	1,675
Net saving	1,473	1,562	1,675
Net lending or borrowing	1,473	1,562	1,675
Net financial investment	1,473	1,562	1,675
Net increase in financial assets	1,473	1,562	1,675
Bonds	1,400	1,519	1,654
Government of Canada bonds	10	11	11
Provincial Government bonds	1,390	1,508	1,643
Claims on associated enterprises:			
Government	73	42	22
Other financial assets		1	-1
Provincial social security funds			
Gross saving	530	621	583
Net saving	530	621	583
Net lending or borrowing	530	621	583
Net financial investment	530	621	583
Net increase in financial assets	530	621	583
Claims on associated enterprises:			
Government	509	601	608
Other financial assets	21	20	-25

Source Statistics Canada, Financial Flow Accounts - First Quarter 1978, Cat. 13-002, Table 2-37.

Table 28
Asset Distribution of Trusteed Pension Funds, Selected Years 1961-1976 (Market Values)

	1961		1965		1970		1976	
	Millions of dollars	Per cent	Millions of dollars	Per cent	Millions of dollars	Per cent	Millions of dollars	Per cent
Investment in pooled pension funds	135	3.3	456	6.8	767	7.3	1,463	6.0
Investment in mutual funds	41	1.0	40	.6	65	.6	37	.1
Investment in segregated funds	-	-	-	-	-	-	346	1.4
Bonds: Government of Canada	560	13.7	473	7.0	407	3.9	612	2.5
Provincial government	1,270	31.1	1,963	29.2	2,747	26.0	6,223	25.2
Municipal school boards, etc.	419	10.3	619	9.2	641	6.1	873	3.5
Other Canadian	647	15.8	965	14.4	1,349	12.8	3,742	15.2
Non-Canadian	9	.2	4	.1	10	.1	9	-
Total	2,905	71.1	4,024	59.9	5,154	48.9	11,469	46.4
Stocks: Canadian, common	445	10.9	1,042	15.5	2,223	21.0	5,103	20.6
Canadian, preferred	17	.4	29	.5	67	.6	70	.3
Non-Canadian, common	67	1.7	223	3.3	541	5.1	932	3.8
Non-Canadian, preferred	-	-	1	-	9	.1	1	-
Total	529	13.0	1,295	19.3	2,840	26.8	6,106	24.7
Mortgages: Insured residential (NHA)	231	5.6	367	5.5	512	4.8	1,944	7.9
Conventional	110	2.7	252	3.7	496	4.7	1,384	5.6
Total	341	8.3	619	9.2	1,008	9.5	3,328	13.5
Real estate and lease-backs	33	.8	44	.6	48	.5	144	.6
Miscellaneous: Cash on hand	42	1.0	103	1.5	136	1.3	398	1.6
Guaranteed investment certificates	-	-	18	.3	110	1.0	173	.7
Short-term investments	-	-	32	.5	278	2.6	790	3.2
Accrued interest and dividends receivable	36	.9	55	.8	90	.8	225	.9
Accounts receivable	21	.5	32	.5	75	.7	232	.9
Other assets	2	.1	2	-	3	-	5	-
Total	101	2.5	242	3.6	692	6.4	1,823	7.3
Total Assets	4,085	100.0	6,720	100.0	10,574	100.0	24,716	100.0

Source Statistics Canada, Trusteed Pension Plans Financial Statistics, 1977 (74-201).

Table 29
Financing the Mortgage Market in 1977

	Millions of dollars	Per cent Distribution
Total change in liabilities	16,899	
Persons and unincorporated business	16,060	
Non-financial private corporations	649	
Sources of financing		
Persons and unincorporated business	3,634	21.5
Chartered banks	2,630	15.6
Near banks	6,503	38.5
Life insurance companies	1,197	7.1
Trusteed pension plans	829	4.9
Other	2,106	12.5

Source: Statistics Canada, Financial Flow Accounts, First Quarter 1978, Cat. 13-002.

Table 30
Financing the Bond Market in 1977

	Total bonds		Federal government bonds		Provincial government bonds		Municipal bonds	
	(Millions)	(Per cent)	(Millions)	(Per cent)	(Millions)	(Per cent)	(Millions)	(Per cent)
Total change in liabilities	$18,739		$5,751		$7,571		$1,505	
Non-financial private corporations	2,079							
Non-financial government enterprises	3,505							
Federal government	5,664							
Provinces, local governments, and hospitals	5,756							
Total change in assets - major groups	18,379		5,751		7,571		1,505	
Persons and unincorporated business	2,813	(15.3)	2,334	(40.6)	466	(6.1)	321	(21.3)
Non-financial government enterprise	86	(.5)	-20	(-.3)	86	(1.1)	10	(.1)
Banks and near-banks	1,558	(8.5)	428	(7.5)	-67	(-.1)	42	(2.8)
Insurance companies and pension funds	3,112	(16.9)	578	(10.1)	1,388	(18.3)	163	(10.8)
Other private institutions	740	(4.0)	337	(5.9)	93	(1.2)	100	(6.6)
Public financial institutions	647	(3.5)	158	(2.7)	359	(4.7)	50	(3.3)
Provinces, local governments, and hospitals	1,759	(9.6)	105	(1.8)	937	(1.2)	577	(38.3)
Federal social security	1,654	(9.0)	11	(.0)	1,643	(21.7)		
Rest of world	4,895	(26.6)	306	(5.3)	2,659	(35.1)	258	(17.1)

Note: The figures in brackets represent the proportion of bond financing contributed by the various sectors.

Source Statistics Canada, Financial Flow Accounts, First Quarter 1978, Cat. 13-002.

Table 31
Stock of Consumer Credit by Selected Institutions: 1967-1978

End of period	Chartered banks (ordinary personal loans)	Sales finance and consumer loan companies	Life insurance companies (policy loans)	Quebec savings bank	Retail dealers	Trust and mortgage loan companies	Credit unions and caisses populaires	Retail dealers	Total
				(Millions of dollars)					
1967	2,980	2,408	486	17	777		1,094	834	8,595
1968	3,673	2,638	553	21	801		1,247	902	9,834
1969	4,157	3,046	660	24	857		1,401	966	11,110
1970	4,663	2,851	759	22	868		1,493	1,024	11,680
1971	5,777	2,367	784	25	914		1,690	1,086	12,643
1972	7,144	2,646	813	30	992	46	2,000	1,185	14,856
1973	8,878	2,913	884	36	1,144	82	2,420	1,288	17,644
1974	10,817	2,966	1,066	44	1,314	145	2,762	1,411	20,525
1975	13,175	2,912	1,149	58	1,424	199	3,243	1,627	23,787
1976	16,177	2,869	1,232	72	1,505	287	3,884	1,712	27,738
1977	18,731	2,754	1,282	87	1,567	368	4,512	1,862	31,163
1978(Sept.)	21,287	2,793	1,321	102	1,456	589	5,050(a)	1,758(a)	33,424(a)

a Second quarter, 1978 balances. The 1978 total added together some figures reported for September with figures reported for the second quarter of 1978.

Source Bank of Canada, Monthly Review, February 1979.

Table 32
Relative Distribution of Consumer Credit Balances by Major Holders - End of Period: Selected Years 1967-1978

	1967	1970	1973	1978
		(Per cent)		
Chartered banks	34.7	39.9	50.3	63.7
Sales finance and consumer loan companies	28.0	24.4	16.5	8.3
Life insurance companies	5.6	6.5	5.0	3.9
Quebec savings banks	2.0	.2	.2	.3
Retail dealers	9.0	7.4	6.5	4.4
Trust and mortgage loan companies			.5	1.8
Credit unions and caisse populaires	12.7	12.8	13.7	15.1
Retail dealers	9.7	8.8	7.3	5.2

Source Bank of Canada, Monthly Review, February, 1979.

8. THE DISTRIBUTION OF TOTAL FINANCIAL ASSETS: 1967-1977

The figures set out in the preceding section refer to changes in the stocks of assets and liabilities for the thirteen principal sectors of the economy. The same Statistics Canada sources compile statistics on year-end asset holdings for the major sectors, thus providing another reference point for the growth of financial institutions, and for the change in the liability and asset positions of the principal lenders and borrowers. The latest flow of fund figures available on the stock of assets were for calendar year 1976, though we were able to update the figures on the basis of more recent flow of funds data.

According to the figures in Table 33 the stock of total financial assets at the end of 1977 totalled $898.9 billion. The private financial intermediaries - the banks, near-banks, insurance companies, pension funds, mortgage companies, etc., - held about $273 billion in assets, the social security fund about $17.2 billion in assets, while the external sector held about $104 billion in assets. As Statistics Canada notes, the compilation of these aggregate and sector asset figures is derived mainly from book valuation estimates, even though market valuation provides a superior measure.

As the data in Table 34 suggest, the growth in the aggregate of total financial assets has been remarkably similar to that of Canada's nominal GNP since 1961. But there have been some striking differences in growth rates for various sectors. The assets of social security funds, banks, near-banks, and non-financial government enterprises have recorded growth rates in excess of Canada's nominal GNP.

At this point it is important to consider the issue of whether or not there should be a consistent relationship between the growth of total financial assets and the growth of Canada's GNP. Indeed, what an

empirical elasticity of unity seems to imply is that the financial intermediation process has been relatively constant, though underlying shifts have occurred among financial sectors. While there is no theoretical formulation for explaining this apparent constant relationship - that is, that total financial intermediation should remain constant - the observation forms a necessary starting point for the projections which are made in this study. The historical elasticity figures which are recorded in Table 34 for the total financial system, and for the major sectors, simply relate the percentage change in a group's assets to the percentage change in nominal GNP. The year 1967 was chosen as a starting point for the comparisons, since that year ushered in a significant change in the Canadian Bank Act which had major implications for financial asset competition among the financial institutions.

The data in Table 35 set out the Canadian dollar assets of the principal financial institutions in Canada. The chartered banks, of course, loom large in this review of financial intermediation, since their Canadian dollar assets account for about 46 per cent of total financial institution assets. Under the umbrella of the Bank Act, expected to be passed in 1980, the banks and near-banks are expected to grow more similar in their asset and liability mix, as the department store concept for financial institutions is expected to dominate in the future. In essence, the new Bank Act will further break down the specialization barriers that exist among institutions which accept deposits.

The figures in Table 36 also reveal a close correspondence between the growth of the Canadian dollar assets of financial institutions and the growth of Canada's GNP. Thus, between 1967 and 1978, Canada's nominal GNP rose at an average annual rate of 12.1 per cent, while the collection of financial assets increased at a rate of 13.1 per cent. But the distribution of private financial assets between 1967 and 1978 has shifted in favour of the banks and near-banks and away from the contractual savings sector of the economy and the sales finance and consumer loan companies. This shift in distribution of private financial assets can be detected in the figures in Table 36.

Between 1967 and 1978, banks and near-banks (with the exception of Quebec Savings Banks) grew more rapidly than the financial system as a whole, and thus increased their share of total financial assets rather dramatically. For example, the banks' share rose by 6 percentage points, trust and mortgage loan companies 1.75 percentage points, and credit unions and caisses populaires 2.7 percentage points. On the other hand, the life insurance companies, sales finance companies, and consumer loan companies all experienced declines in their share of outstanding financial assets - though it was the life insurance companies which experienced the most dramatic relative deterioration in assets. Trusteed pension funds held 13.2 per cent of financial intermediary assets in 1978, virtually unchanged from the 1967 level.

The asset growth figures in Table 36 mask to some degree the fact that the chartered banks, which held a dominant position in 1967, greatly enhanced their business opportunities by 1978 and experienced a $96 billion rise in total Canadian dollar assets over this period (approximately 50 per cent of the total increase in financial assets). Several positive factors occurred between 1967 and the late 1970s to generate this rapid expansion of banking activity:

- an accelerated growth rate in the money supply;

- severe housing inflation and periods of strong housing demand coinciding with the 1967 Bank Act changes which allowed the banks to expand vigorously in the mortgage market; and

- a strong increase in nominal consumer spending which coincided with the new bank flexibility to manipulate deposit rates and consumer lending rates.

The near-banks (trust companies, mortgage loan companies, credit unions, etc.) also benefited from the relatively strong economy which created a buoyant housing and consumer goods market over that period. Additionally, however, the banks gained because accelerating inflation appeared to increase their competitive edge in attracting funds from the life insurance companies, sales finance companies, and consumer loan firms. Even though sales finance companies and the consumer loan companies were tuned in to the strong consumer credit demand between 1967 and 1976, the more aggressive competition from banks and credit unions contributed to their relatively slow growth of assets.

Table 33
Total Financial Assets at Year End, Selected Years 1961-1977

	1961	1967	1973	1976	1977
	(Millions of dollars)				
Persons and unincorporated business	60,923	100,480	177,735	267,907	299,067
Non-financial corporations	18,653	31,428	54,909	75,196	82,107
Non-financial government enterprises	1,389	2,274	4,099	8,090	8,955
Monetary authority	5,556	7,165	12,730	16,196	16,404
Chartered banks	14,101	27,582	64,090	101,195	115,938
Near-banks	4,409	10,760	25,699	43,975	53,318
Insurance companies and pension funds	12,532	20,837	34,773	48,986	55,742
Other private financial institutions	6,692	13,627	27,285	43,914	48,298
Federal government	11,188	16,219	27,201	35,073	36,830
Provincial and local governments and hospitals	6,096	10,295	21,195	30,096	36,015
Social security fund		1,598	9,032	14,986	17,244
Rest of world	26,831	41,301	67,624	96,001	104,362
Public financial institutions	2,256	5,907	13,826	21,717	22,950
Total	170,620	289,473	540,198	803,332	898,860

Source Statistics Canada, Financial Flow Accounts, Volume II, Cat. 13-563, November, 1977; and Financial Flow Accounts, Second Quarter, 1978.

Table 34
Relationship between Asset Growth and GNP Growth (Average Annual Growth Rate), 1961-1977

Assets major sector	Proportion of total assets			Asset growth			Elasticity (Per cent change assets/ per cent change GNP) GNP growth		
	1961	1967	1977	1961-1967	1967-1973	1967-1977	1961-1967	1967-1973	1967-1977
Persons and unincorporated business	35.7	34.7	33.3	8.70	9.97	11.52	.969	.915	.943
Non-financial corporations	10.9	10.9	9.1	9.08	9.74	10.08	1.011	.894	.826
Non-financial government enterprises	.8	.8	1.0	8.56	10.32	14.69	.953	.947	1.203
Monetary authority	3.3	2.5	1.8	4.33	10.05	8.63	.482	.922	.707
Chartered banks	8.3	9.5	12.9	11.83	15.09	15.44	1.317	1.384	1.265
Near-banks	2.6	3.7	5.9	16.03	15.61	17.35	1.785	1.432	1.421
Insurance companies and pension funds	7.3	7.2	6.2	8.84	8.91	10.34	.984	.817	.847
Other private financial institutions	3.9	4.7	5.4	12.58	12.26	13.48	1.401	1.125	1.104
Federal government	6.6	5.6	4.1	6.38	9.00	8.55	.710	.826	.700
Provincial and local governments and hospitals	3.6	3.6	4.0	9.12	12.79	13.34	1.016	1.173	1.093
Social security funds		.6	1.9		33.46	26.85		3.070	2.199
Rest of world	15.7	14.3	11.6	7.45	8.56	9.72	.830	.785	.796
Public financial institutions	1.3	2.0	2.6	2.6					
Total Assets				9.21	10.96	12.00	1.026	1.006	.983
GNP				8.98	10.90	12.21			

Source See Table 33 and Department of Finance, Economic Review, April 1979, p. 125.

Table 35
Canadian Dollar Assets of Major Private Financial Intermediaries: 1967-1978

Year end	Chartered banks	Trust and mortgage loan companies	Life insurance companies	Trusteed pension funds	Credit unions and caisses	Sales finance and consumer loan companies	Quebec savings banks	Total
				(Millions of dollars)				
1967	25,199	7,125	13,459	8,068	3,382	4,501	461	62,240
1968	28,939	7,958	14,265	8,972	3,758	4,927	571	69,390
1969	31,000	9,063	15,009	10,003	4,103	5,652	542	75,372
1970	33,616	10,342	15,673	11,059	4,570	5,502	569	81,331
1971	39,958	11,629	16,771	12,461	5,532	5,595	637	92,583
1972	46,650	13,381	18,385	14,050	7,040	6,282	709	106,497
1973	56,455	16,446	20,046	16,171	8,814	8,161	805	126,884
1974	68,506	19,185	21,656	17,600	10,315	9,521	884	147,607
1975	77,169	22,621	24,097	21,264	12,791	10,323	971	169,236
1976	88,751	27,667	26,759	25,251	15,662	11,073	1,118	196,281
1977	102,819	32,633	29,419e	29,719	19,618	11,908	1,270	227,386
1978	121,000e	37,000e	32,419e	34,400e	22,000e	12,300e	1,450e	260,569
Average annual growth rate (per cent)								
1967-77	15.1	16.4	8.1	13.9	19.2	10.2	9.6	13.8
1967-78	15.3	16.1	8.3	14.1	18.6	9.6	10.0	13.9

Source Bank of Canada, Monthly Review, various issues.
Statistics Canada, Quarterly Estimate of Trusteed Pension Funds, 3rd Quarter, 1975.
Statistics Canada, Financial Flow Accounts, 2nd Quarter, 1978.

Table 36
Growth and Distribution of Canadian Dollar Assets of Major Financial Intermediaries: 1967-1978

Financial institution	Average annual growth in assets 1967-1978	Distribution of assets 1967	Distribution of assets 1978
	(Per cent)		
Banks	15.3	40.5	46.4
Near-banks			
Trust companies and mortgage loan companies	16.1	11.4	14.2
Credit unions and caisses populaires	18.6	5.4	8.4
Quebec savings banks	10.0	.8	.6
Contractual savings			
Life insurance companies	8.3	21.6	12.4
Trusteed pension funds	14.1	13.0	13.2
Sales finance companies and consumer loan companies	9.6	7.2	4.7
Total	13.9(12.1)(a)	100.0(b)	100.0(b)

a Average annual growth rate for nominal GNP, 1967 to 1978.
b May not sum to 100.0 per cent because of rounding.

Source See Table 35.

9. CAPITAL MARKET PROJECTIONS: THE 1980s

a) Demand for Funds

The previous two sections of this report outlined the role of financial institutions in the intermediation process between savers (lenders) and investors (borrowers). As the discussion and data in section 7 demonstrated, four of the five major non-financial groups (i.e., individuals and unincorporated business, corporations, government, and the foreign sector) can be regarded as both lenders and borrowers. That is, within each of these groups there are separate borrowing and lending entities, some of which are accumulating financial assets while others are issuing financial liabilities. In this section of the report we will focus on the future borrowing requirements of these groups and the mix of financial liabilities that will be issued to support the demands.

Prior to setting out a forecast of aggregate borrowing demands and the distribution of financial liabilities, it is useful to consider the course of such financial developments since 1961. Table 37 records the dollar value of total financial liabilities (assets) for the years 1961, 1967, 1973, and 1976. In addition, the total dollar value and distribu-

tion of the principal financial liabilities of the four non-financial groups are included in this table. Two key developments stand out in the data. Over the period 1961 to 1976, consumer credit, bank loans, and mortgages have each increased as a proportion of total financial liabilities. On the other hand, the bonds' and equities' shares have declined steadily.

One additional observation on these statistics is that among bonds, the provincial share has increased not only in relation to total bond liabilities but also to total financial liabilities. These trends may directly reflect large-scale public utility investments financed by the provincial governments or indirectly rising demands for expenditures by provincial governments in the health, education, and social assistance areas. Clearly the availability of funds from the CPP/QPP eased the financial borrowing constraint on the provinces, permitting them to be more willing to meet such increasing demands.

The critical question for this study is whether these financial developments will continue in the 1980s. The answer is both yes and no. In order to demonstrate which trends will continue and which ones may reverse, it is necessary to draw upon materials presented above in sections 1 to 4 and 6 of the study. Starting with the consumer sector (individuals and unincorporated business) one notes that two critical factors have been at work. Over the past fifteen years the share of GNP accounted for by total consumer expenditures has risen only marginally, although among consumer items, expenditures on durables have increased sharply. And financing of consumer expenditures occurs most frequently for durables and semi-durable commodities. The other key factor stems from the demographic projections for the next decade. As was illustrated elsewhere, Canada can expect its population to become noticeably older in the 1980s, with the age group 30 to 49 displaying the most rapid rate of growth over the period 1978 to 1990. It is within this age group that spending on durables and semi-durables represents the largest proportion of total expenditures.

The latter demographic fact implies that the observed trend of an increasing proportion of total consumer expenditures to GNP being accounted for by spending on durables (and to a lesser extent semi-durables) is likely to continue in the 1980s. Indeed, the authors project the aggregate demand distribution for 1985 and 1990 as set out in Table 18.

In light of our expectations with regard to the growth and distribution of consumer spending to 1990, one can project a continuation of the past increases in the consumer credit share of total financial liabilities. But the upward trend will moderate somewhat because the proportion of durables and semi-durables expenditures financed externally will decline. Earlier in this study it was noted that the personal savings rate in 1978 was close to its record high attained in 1975, and with some expected moderation in the rate of inflation, the personal

savings rate may trend lower, thus providing resources to finance consumer expenditures. Consequently, we expect consumer credit outstanding to comprise about 3.7 and 3.8 per cent of total financial liabilities in 1985 and 1990 respectively. These ratios compare to a 3.4 per cent share in 1976 and 2.5 per cent in 1961 (see Table 37).

In section 3 of this study the prospects for the housing market to 1990 were reviewed. The main trends in this area indicate little if any real growth in the level of expenditures in residential construction to 1985, and negative real growth between 1985 and 1990. Indeed, the share of residential construction to total GNP should decline continually over the period 1978 to 1990 (see Table 18). The real growth trends should result in lower relative demands for mortgage funds. This forecast is based partly on the expectation that housing inflation will not outpace the overall rate of inflation, let alone exceed it by an amount sufficient to offset the real growth trends. Thus the figures in Table 37 highlight a rather sharp reversal from the past when mortgages made up an increasing share of total financial liabilities. By 1985, mortgages should acount for 8.5 per cent of aggregate financial liabilities as compared to 9.9 per cent in 1976. The ratio is expected to decline further to 8 per cent by 1990.

The attention on asset and liability distribution now shifts to the government sector. As was noted in section 1, we expect that a continuation of spending restraint by all levels of government will be a distinctive feature of the period up to at least 1985. The desire by governments to reduce their budget deficits should in itself result in future relative reductions in borrowing demands stemming from this sector. In addition, the overbuilding of electrical generating capacity in several provinces during the past decade may lead to lower real expansion in future generating facilities by provincially controlled utility companies. This should reduce as well the growth of borrowing demands from the provincial sector.

However, fiscal restraint cannot quickly eliminate large government deficits. In the absence of significant tax rate increases (such as the elimination of indexing of personal income taxes), the continuation of double-digit (in billions of dollars) or near double-digit budget deficits at the federal level are expected to continue until the early 1980s even with continued restraint on spending.

These various trends imply the following:

1. At the federal level, large deficits will continue for some time, even with a program of restraint. This will result in borrowing demands outpacing total demands until 1985, so that by 1985 the government of Canada bond share of total financial liabilities should approach 4.6 per cent. Beyond 1985, continued restraint together with a prospective fuller utilization of

the economy's potential capacity should contribute to better control of the deficit and relatively lower borrowing demands.

2. Budget deficits will be more controllable at the provincial level. The total borrowing demands of the provinces should rise at a lower rate than aggregate borrowing. Thus, the provincial bond share of total financial liabilities should decline from the 6 per cent level in 1976 to 5.5 and 5 per cent by 1985 and 1990 respectively.

3. Municipal borrowing needs will tend to parallel those of the provincial governments. This study projects a decline in the share of municipal liabilities to total liabilities.

The corporate sector is the final one which is considered in this section. In section 2 of this report it was noted that real growth in non-residential construction and machinery and equipment is expected to be fairly rapid in the 1980s, stimulated by large-scale energy projects and the modernization of facilities in the resource industries. Thus, private investment growth should exceed the real growth rate of aggregate GNP at least until 1985.

As Table 18 indicates, growth in real business investment dominates the economy through until the mid-1980s. The main factors explaining this trend are already in place - particularly the scheduled energy investment projects (see Appendix Table 1). Indeed, with the delays already experienced in this area, it is likely that the capital investment field will dominate the aggregate demand profile for the second half of the 1980s as well.

The relatively buoyant expectations for the business investment sector should translate into relatively large-scale borrowing demands. The corporate sector will raise the needed funds by issuing bonds and equities and as well by borrowing from the chartered banks. As a result, we have projected the shares of other Canadian bonds, equities, and bank loans to increase between 1978 and 1990 (see Table 37).

Table 37
Relationship of Selected Financial Assets to Total Assets, Selected Years 1961-1977 and Forecasts 1985 and 1990

	1961	1967	1973	1977
	(Millions of dollars)			
Total assets	170,620	289,473	540,198	803,332
Consumer credit	4,334	8,501	17,484	27,431
Banks loans	6,055	12,666	26,301	44,286
Mortgages	12,036	24,200	50,887	79,198
Bonds	37,225	55,377	86,524	127,826
Government of Canada	16,745	19,533	25,031	34,200
Provincial	8,179	15,031	29,267	48,245
Municipal	4,224	7,527	11,308	15,403
Other Canadian	8,077	13,286	20,918	29,978
Equities	20,000	31,504	48,523	68,358

	Selected ratios to total assets				Projections	
					1985	1990
	(Per cent)					
Consumer credit	2.5	2.9	3.2	3.4	3.7	3.8
Bank loans	2.5	4.4	4.9	5.5	6.0	6.0
Mortgages	7.1	8.4	9.4	9.9	8.5	8.0
Bonds	21.8	19.1	16.0	15.9	15.7	14.8
Government of Canada	9.8	6.7	4.6	4.3	4.6	4.0
Provincial	4.8	5.2	5.4	6.0	5.5	5.0
Municipal	2.5	2.6	2.1	1.9	1.7	1.5
Other Canadian	4.7	4.6	3.9	3.7	3.9	4.3
Equities	11.7	10.9	9.0	8.5	8.8	9.0

Source For the historical data, the source is Statistics Canada, Financial Flow Accounts, First Quarter 1978, Cat. 13-002, Table 1-4 and Financial Flow Accounts, Vol. II, Cat. 13-563.

b) Supply of Funds

The four major sources of funds (savings) are individuals and unincorporated business, business enterprises, government including CPP/QPP, and the foreign sector. For the first three groups there are two sources of savings - the excess of their revenues over expenditures (including taxes) and capital consumption allowances. The foreign sector is a net supplier of funds whenever the current account is in a deficit position, and during the past quarter-century this has been the case in Canada in all but two years (1971 and 1972). Generally, the foreign sector is a net supplier of long-term funds - direct and portfolio investment - and a net recipient of short-term funds (see Table 38).

Several interesting developments have occurred in the distribution of savings during the past fifteen years. The aggregate savings rate (as measured by the investment/GNP ratio which is the exact counterpart to

the gross savings/GNP ratio) has not displayed any discernible trend over this period. In current dollar terms the savings rate was about 23 per cent in 1978 as compared to just under 21 per cent in 1962 and 1963. However, the composition of aggregate savings has changed dramatically. The savings generated by persons and unincorporated business rose steadily as a proportion of total savings betwen the mid-1960s and the mid-1970s. For example, in 1965 this sector accounted for less than 29 per cent of total savings and in 1975 for just under 44 per cent. The upward trend has moderated during the past three years. The increase of this sector was entirely the result of higher savings (excess of revenues over expenditures) rather than capital consumption allowances (see Table 38). In turn, the higher personal savings contribution reflected a sharp acceleration in the personal savings rate (savings as a proportion of personal disposable income) between the early and mid-1970s, rather than an increase in the personal income-GNP and personal disposable income-personal income ratios. Indeed, the increase in the former ratio between the mid-1960s and the mid-1970s was offset by the decrease in the latter ratio over this same period (see Table 39).

Government's role as a supplier of savings has declined sharply since 1974. Capital consumption allowances in the government sector as a source of savings has remained relatively steady, providing about 6 per cent of total savings. The government savings component has changed significantly. CPP/QPP contributions to total savings have increased since the inception of these plans in the mid-1960s, although during the past few years their share has levelled off. But offsetting the CPP/QPP gains have been increasing deficits at all levels of government during the 1970s. Thus by 1977, government savings excluding capital consumption allowances have been negative.

Business savings' share of total savings has been quite volatile since 1962, fluctuating between 35 and 46 per cent. Downward inventory valuation adjustments, particularly since the mid-1960s when inflation rates began to accelerate, have been a consistent negative component of business savings. The most significant part of business savings has been capital consumption allowances (CCA). They have accounted generally for 60 per cent or more of total business savings and between 24 and 31 per cent of aggregate savings. The business CCA share of total savings has dropped sharply since 1971 so that from 1974 onwards the share has tended to be below 25 per cent. The acceleration in the inflation rate since 1973 might be partly responsible for this development. Accounting practices, especially for valuing physical capital and the appropriate depreciation write-offs, have not adjusted to a more inflationary environment. Hence, capital consumption allowances based on historical prices do not adequately reflect the much higher replacement values of the capital stock and so are serious underestimates. As inflation rates moderate and recent capital investments begin to represent a greater proportion of the existing capital stock, then part of this accounting problem will be offset. In addition, the changes in tax treatment of depreciation allowances introduced in a recent federal gov-

ernment budget should accelerate innovations in inflation accounting, as well as contribute to offsetting the recent trend.

Undistributed corporate profits have fluctuated as a share of gross savings, and the profit share has ranged between 16 and 23 per cent. Obviously, undistributed corporate profits contributions parallel the movements in profits generally. Thus it is not surprising that the profits to savings share reached 23 per cent in 1974 when corporate profits climbed to 13.5 per cent of total GNP - the highest ratio in the past quarter of a century. Corporate profits in turn are influenced by capacity utilization rates and thus the business cycle. During the early stages of an upturn, as capacity utilization rates begin rising sharply, profit margins and aggregate profits also increase significantly. During the latter stages, profit increases are moderated by rising wage gains. Similarly, during the early stages of a downturn, profits fall sharply as capacity utilization rates fall.

The foreign sector's net contribution to aggregate savings reflects the size of the current account deficit relative to GNP, since foreign sector savings are the net capital inflows that finance the current account deficit. Since 1974, the current account deficit has remained in excess of $4 billion each year, surpassing the $5 billion mark in 1978. Thus it is not surprising that the foreign sector has contributed around 10 per cent of total savings since 1975, especially since governments have been diminishing in importance as a source of savings.

The future supply of gross savings will be affected by the impact of the large devaluation of the Canadian dollar between December 1976 and December 1978 on future current account balances, the expected levelling off in the net contributions to the CPP/QPP, and governments' push towards balancing budgets. None of these factors in themselves should impinge directly on the savings contributions (of persons and unincorporated business). They will, of course, have indirect effects. For example, the devaluation of the dollar should offset the government restraint program's negative impact on the economy. Further, the absence of any significant changes in CPP/QPP contribution rates should leave the personal disposable income/personal income ratio unaffected.

Capital consumption allowances for unincorporated businesses and individuals should provide an average of between 13 and 14 per cent of total savings over the period 1978 to 1990. The net savings component should contribute between 21 and 23 per cent. These shares represent a decline from the current levels. This reflects the expectation that the personal savings rate should drop below the present 10 per cent rate and average between 7 and 8 per cent during the next decade. This decline should not be offset or exacerbated by changes in the personal income-GNP and personal disposable income-personal income rates. While the former rate increased and the latter decreased during the 1970s, these trends are not likely to continue. Indexing of personal income taxes has effectively put an end to the latter trend. As for the former, gov-

ernment restraint, especially in the area of transfer payments, should curtail the upward trend. Moreover, the moderation in inflation and interest rates should also serve to reinforce the impact of government restraint since rising interest, dividends and miscellaneous investment income, and government transfer payments were primarily responsible for the increasing share of personal income to GNP (see Table 40).

In the business sector, changes in the accounting treatment of depreciation allowances, together with rapid growth of investment in non-residential construction, machinery, and equipment should result in significantly larger contributions by capital consumption allowances to total savings. Thus, we would project a share averaging close to 28 per cent over the period 1978 to 1985 and between 30 and 32 per cent for the period 1985 to 1990.

Associated with government efforts at restraint is a desire to stimulate the private sector and to reallocate economic activity essentially in that direction. This suggests that tax policies will be favourable for corporate profits. Therefore, one would expect the undistributed profits-total savings ratio to average around 18 to 19 per cent during the next decade. In total then, the corporate sector's share of total savings, allowing for a negative 2 per cent impact for the inventory valuation adjustment (the adjustment is negative when prices are rising) should average about 44 per cent between 1975 and 1985 and 47 per cent between 1985 and 1990.

As for the foreign sector, the prospective impact of the recent Canadian dollar devaluation becomes crucial. If the devaluation does not dramatically improve Canada's cost competitive position over time (there is always the possibility that relatively lower productivity growth rates or sharply higher wage gains in Canada can erode the short-term cost advantages of a lower dollar) or if increasing natural gas sales result in a significant upward move in the international value of the Canadian dollar, then the annual current account deficit could continue to exceed $4 or $5 billion. Sharply higher deficits are also quite probable in this scenario because of the rising costs of servicing the large increases in Canada's net international debt registered since 1974. Hence, deficits in excess of $7 or $8 billion and rising further over time are not unreasonable in this scenario. Therefore, in this case we would expect the foreign sector to continue contributing around 10 per cent to total savings.

On the other hand, if the positive impact of the devaluation predominates over any negative offsets, then the current account deficit should decline both in absolute and relative terms during the next decade. In this scenario, the foreign sector's contribution to total gross savings should drop to about the 4 to 5 per cent level. In addition, the more rapid rates of economic growth that should occur as a result between 1978 and 1983, should make it somewhat easier for governments, particularly the federal government, to bring their spending more in

line with their revenues. In effect, a lower foreign sector contribution to gross savings should be compensated for by a higher government savings share.

We now focus our attention on governments' contributions to total gross savings. Despite the expectation that spending restraint will also affect investment projects by governments and/or their agencies, one can nevertheless anticipate that government capital consumption allowances will comprise between 5.5 and 6 per cent of total savings. There are two opposing factors that will affect the net savings component.

First, the contribution of CPP/QPP to total savings should remain at about 2.5 per cent until 1985. After 1985, as the CPP fund moves towards a pure pay-as-you-go system, in the absence of any policy changes that would attempt to maintain the CPP as a partly funded system, the CPP share of total savings will decline quickly towards zero prior to 1990. Secondly, the government restraint program is expected to show increasing signs of success during the early to mid-1980s. Thus, while the total net savings of government, including the CPP/QPP, should remain relatively small until 1981, thereafter some positive growth could occur. Consequently, we project that governments' share of total savings (including government CCA) should average between 8 and 11 per cent over the next decade, assuming only moderate benefits from the devaluation of the dollar.

To translate the various projections into specific savings ratio or dollar values requires an estimate of the aggregate savings-GNP ratio, and in turn a projection of the current dollar value of GNP. In section 4, we provided an estimate of the expected average annual growth rates for nominal GNP. Using the growth rates, we calculate a value for GNP of $445.2 billion in 1985 and $685.4 billion in 1990. The aggregate gross savings to GNP ratio is estimated by projecting the investment to GNP ratio, since it is the numerical counterpart. According to the discussion in the previous section, business investment in non-residential construction, machinery, and equipment should outpace the growth of aggregate GNP. However, investment in residential construction and by government should keep the aggregate growth rate for total investment in line with that for GNP, at least until 1985. Thus the investment GNP rate should display little change between 1978 and 1985.

Combining the projections of the savings-GNP ratios with projections of GNP yields the following current dollar estimates for savings: 1985 - $98.5 billion; 1990 - $150.4 billion. The projections for the various sub-components of savings and the above savings totals are combined to produce absolute dollar values for the sub-components of savings. The data are presented in Table 41.

Table 38
Selected Ratios for Savings and Capital Formation, Selected Years 1962-1976

	1962	1965	1968	1971	1974	1975	1976
	(Per cent)						
Distribution of gross savings							
1. Persons and unincorporated business: Savings	17.1	13.8	14.4	17.6	26.5	30.3	29.5
CCA	17.2	15.0	16.0	15.2	12.0	13.4	13.3
	(34.3)	(28.8)	(30.4)	(32.8)	(38.5)	(43.7)	(42.8)
2. Government: Savings	6.4	13.2	15.3	12.4	15.9	.3	.7
CCA	5.9	5.4	6.0	6.6	5.6	6.2	6.2
	(12.3)	(18.6)	(21.3)	(19.0)	(21.5)	(6.5)	(6.9)
3. Business enterprises: Undistributed profits	16.4	18.6	19.7	17.1	23.0	18.4	16.8
IVA	-1.0	-2.3	-2.1	-3.3	-11.2	-7.3	-4.4
CCA	31.0	26.4	28.4	30.0	23.9	25.1	24.8
	(46.4)	(42.7)	(46.0)	(43.8)	(35.7)	(36.2)	(37.2)
4. Non-residents	8.0	8.0	1.6	-.9	5.4	13.2	10.4
Distribution of capital formation							
1. Persons and unincorporated business: GFCF	24.0	21.3	21.8	22.1	21.2	23.3	24.6
Inventories	2.5	.2	1.4	.1	-.8	.6	1.0
	(26.5)	(21.5)	(23.2)	(22.2)	(20.4)	(23.9)	(25.6)
2. Government: GFCF	19.7	17.2	18.1	18.5	14.4	15.8	14.2
Inventories	-.0	-.1	.2	.2	.1	.1	.1
	(19.7)	(17.1)	(18.3)	(18.3)	(14.5)	(15.9)	(14.3)
3. Business enterprises: GFCF	48.1	54.3	55.6	61.9	54.6	61.1	58.4
Inventories	4.4	8.7	2.9	2.0	8.8	-1.3	3.5
	(52.5)	(63.0)	(58.5)	(63.9)	(63.4)	(59.8)	(61.9)
Personal and uncorporated business: 1. Savings + CCA/GFCF	1.42	1.35	1.39	1.48	1.82	1.88	1.74
2. Savings/Savings + CCA	49.9	48.0	47.5	53.7	68.8	69.3	68.9
Government: 1. Savings + CCA/GFCF	.63	1.08	1.18	1.02	1.50	.41	.49
2. Savings/Savings + CCA	51.9	70.9	71.9	65.3	74.0	4.0	10.4
Business: 1. Savings + CCA/GFCF	.97	.80	.84	.72	.67	.61	.65
2. Savings + CCA/GFCF + Inventories	.89	.69	.80	.70	.58	.62	.61
3. Undistributed Profits/Savings + CCA	35.0	43.0	42.2	38.2	63.2	49.7	44.2
4. Savings/Savings + CCA	33.6	38.9	39.0	33.1	34.4	32.2	34.7
5. Undistributed Profits + CCA/GFCF	.98	.83	.86	.76	.86	.71	.71

Notes: CCA - Capital Consumption Allowances
GFCF - Gross Fixed Capital Formation
IVA - Inventory Valuation Adjustment

Source Statistics Canada, National Income and Expenditure Accounts, 1962-1976, Cat. 13-201.

Table 39
Selected Personal Income Ratios, Selected Years 1962-1976

	1962	1965	1968	1971	1974	1975	1976
					(Per cent)		
Personal income/GNP	76.4	74.2	76.7	78.4	79.5	82.4	82.0
Personal direct taxes/Personal income	9.7	10.8	14.8	17.6	18.1	17.6	18.2
Other transfers/Personal income	.8	.9	1.1	1.5	1.0	.8	.9
PDI/Personal income	89.5	88.3	84.1	80.9	80.9	81.5	80.9
C/PDI	93.6	93.6	93.3	92.8	88.1	87.3	87.7
Interest on consumer debt/PDI	.5	.6	.8	1.1	1.6	1.5	1.5
S/PDI	5.6	5.5	5.6	5.8	10.1	11.0	10.6
C/GNP	64.0	61.3	60.2	58.9	56.7	58.6	58.2
Income taxes/Personal income	7.1	8.2	10.6	13.7	13.8	13.2	13.6
Contributions to insurance or pension funds (ex CPP and QPP)/Personal income contributions	2.1	2.1	2.1	2.0	2.8	2.9	3.1
CPP + QPP/Personal income	--	--	1.7	1.5	1.4	1.4	1.4
Insurance and pension contributions (ex CPP + QPP)/Savings	42.4	43.2	44.2	43.2	34.0	32.5	36.0
CPP + QPP/Savings	--	--	35.0	31.4	16.8	15.6	16.5
			(79.2)	(74.6)	(50.8)	(48.1)	(52.5)

Notes: PDI - Personal Disposable Income
C - Consumer Spending
S - Personal Savings

Source Statistics Canada, National Income and Expenditure Accounts, 1962-1976, Cat. 13-201.

Table 40
Personal Income by Selected Sources, Percentage Distribution, Selected Years 1962-1976

	1962	1965	1968	1971	1974	1975	1976
				(Per cent)			
Wages, salaries, and supplementary labour income	66.5	68.7	69.0	69.6	68.4	68.6	69.1
Interest, dividends, and miscellaneous investment income	7.6	7.9	7.7	7.6	9.4	9.0	9.5
Transfer payments from government	8.9	8.3	9.8	11.1	11.9	12.5	12.5

Source Statistics Canada, Financial Flow Accounts, First Quarter 1978, (13-002).

Table 41
Projected Flow and Distribution of Aggregate Savings by Selected Sectors: 1985 and 1990

	1985		1990	
	(Billions of dollars)	(Per cent)	(Billions of dollars)	(Per cent)
Total gross savings	98.5	100.0	150.4	100.0
Persons and unincorporated business				
- Net savings	21.7	22.0	33.0	22.0
- CCA	13.3	13.5	20.3	13.5
Business				
- Net savings	18.2	18.5	27.8	18.5
- IVA	-2.0	-2.0	-3.0	-2.0
- CCA	27.6	28.0	46.6	31.0
Government				
- Net savings, ex CPP/QPP	.0	.0	3.0	2.0
- CPP/QPP	2.5	2.5	.0	.0
- CCA	5.4	5.5	8.3	5.5
Foreign sector	6.9	7.0	7.5	5.0

Source The methodology of the forecast is explained in the text.

c) Asset Growth and Composition

In this section we focus on the expected growth to 1985 and 1990 of selected financial intermediaries - banks, near-banks, other private financial institutions and life insurance companies and pension funds - under different inflation scenarios. In addition, this section considers the relative savings roles of social security funds and the rest of the world sector. As discussed in section 7, financial institutions are intermediaries between savers (lenders) and investors (borrowers). These institutions obtain funds from savers by issuing their financial liabilities which generally tend to be short-term. They then lend the funds out by purchasing the financial liabilities of borrowers - these liabilities are generally long-term although higher rates of inflation have tended to create pressures to shorten the term of such loans. Social security funds and the rest of the world sector also play an intermediary role at least in terms of transferring funds from one group to another group. The social security funds specialize in provincial government debt, while the rest of the world sector purchases long-term private and public sector debt and equity.

In Table 42 we have set out the estimated holdings of total financial assets of the selected institutions in 1977. In Table 43 we have calculated the proportions. Thus in 1977 the banks held financial assets of $115.9 billion or 25.5 per cent of the total of $454.9 billion. Social security funds on the other hand accounted for $17.3 billion or 3.8 per cent of the total. In these tables we have also recorded the projections for 1985 and 1990. For both years there are four sets of projections.

There are high and low inflation projections. The low inflation projection is equal to our expected average annual rate of inflation less one percentage point for the respective periods 1978 to 1985 and 1985 to 1990, as reported in section 4 of the study. The high inflation projection is equal to the expected rate plus two percentage points. In addition, for each inflation projection there are two separate estimates. The column (a) estimates used the average elasticity of asset to GNP growth for the period 1968 to 1977 for each of the institutions. The values are presented in Table 42 below. The use of these values implies continued relative growth of the banks, near banks, and other private financial institutions and continued relative decline for insurance companies and pension funds and the rest of the world. The column (b) estimates used a constant elasticity of 1.0 for all the institutions. In effect, the holdings of financial assets are projected to increase at the same rate for all institutions, with the rate of growth equalling the rate of growth in nominal GNP adjusted for the low and high inflation rate assumptions. In all cases, the CPP asset projections were taken from Case C internal projections for the CPP provided by the Royal Commission on Pensions in Ontario. The QPP assets were assumed to equal the same proportion of the CPP assets as was the case in 1977 (see Tables 42 and 43).

Using all of the above assumptions, we were able to generate the remainder of the data in Tables 42 and 43. We note in Table 42 that by 1985, total financial assets of the selected financial institutions could range between $906 billion and $1,173.5 billion. In 1990, total financial assets could range between $1,318.3 and $2,045.4 billion. These figures compare with estimates for nominal GNP of $495.2 and $685.4 billion in 1985 and 1990 respectively, and for aggregate savings of $98.5 and $150.4 billion in 1985 and 1990.

An examination of the data in Table 43 reveals that the relative role of the social security funds in the financial intermediation process declines marginally to 1985 and sharply thereafter. The financial institutions move in to fill the gap and this reflects as well the declining importance of provincial government bonds as a proportion of total financial liabilities, and the corresponding relative gains of credit, bank loans, corporate bonds, and equities (see Table 37 above).

Table 42
Projection of Financial Assets of Financial Intermediaries, 1985 and 1990

	1977	1985				1990			
		Low inflation		High inflation		Low inflation		High inflation	
		(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
		(Billions of Dollars)							
Banks	115.9	274.6	230.9	359.0	287.0	440.0	336.1	681.0	479.3
Near-banks	53.3	139.6	106.2	187.8	132.0	236.1	154.6	383.5	220.4
Other private financial institutions	48.3	103.1	96.2	130.7	119.6	155.8	140.0	229.5	199.7
Insurance companies and pension funds	55.7	100.3	111.0	120.8	137.9	138.1	161.6	187.1	230.3
Social security funds	17.3	34.1	34.1	34.1	34.1	49.1	49.1	49.1	49.1
CPP(c)	12.6	25.0	25.0	25.0	25.0	36.0	36.0	36.0	36.0
QPP(d)	4.6	9.1	9.1	9.1	9.1	13.1	13.1	13.1	13.1
Rest of world	164.4	286.0	327.6	341.1	407.0	386.5	476.9	515.2	679.7
Total	454.9	937.7	906.0	1,173.5	1,117.6	1,405.6	1,318.3	2,045.4	1,858.5

Notes: (a) Calculated from the 1967-1977 average elasticity of assets to GNP. For example, the projected bank asset figure for 1985, assuring low inflation and assumption (a) in 115.9 $[1+1.265(\text{Table } 34).009]^8$

(b) Elasticity assumed 1.0.

(c) Royal Commission Projection, Case C.

(d) Assumed constant ratio to CPP.

* Projected annual GNP growth rates are as follows:

Low Inflation Scenario 1977-1985 = 9.0 per cent, 1985-1990 = 7.8 per cent
Medium Inflation Scenario 1977-1985 = 10.0 per cent, 1985-1990 = 8.8 per cent
High Inflation Scenario 1977-1985 = 12.0 per cent, 1985-1990 = 10.8 per cent.

Source Statistics Canada, Financial Flow Accounts, Vol. II, Cat. 13-563, 1962-1977.

Table 43
Distribution of Financial Assets of Financial Intermediaries, 1985 and 1990

	1977	1985				1990			
		Low Inflation		High Inflation		Low Inflation		High Inflation	
		(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
		(Per cent)							
Banks	25.5	29.3	25.5	30.6	25.7	31.3	25.5	33.3	25.8
Near-banks	11.7	14.9	11.7	16.0	11.8	16.8	11.7	18.7	11.9
Other private financial institutions	10.6	11.0	10.6	11.1	10.7	11.1	10.6	11.2	10.7
Insurance companies and pension funds	12.2	10.7	12.2	10.3	12.3	9.8	12.2	9.1	12.4
Social security funds	3.8	3.6	3.8	2.9	3.1	3.5	3.7	2.4	2.6
Rest of world	36.1	30.5	36.1	29.1	36.4	27.5	36.2	25.2	36.6

Source Statistics Canada, Financial Flow Accounts, Vol. II, Cat. 13-563, 1962-1977 and projections made by authors.

10. EXPLAINING DIFFERENCES IN SAVINGS RATES: CANADA AND THE UNITED STATES

Until the early 1970s, any differences between the United States and Canada in the manner in which savings were contributed by the various sectors of the economy were easily explainable. For example, in 1966, the proportion of total savings contributed by the personal sector was much lower in Canada than in the United States - 17.3 per cent versus 26.8 per cent (see Table 44). In the 1960s, the bulk of savings in both Canada and the United States was contributed by the business sector.

The government sector - including social security funds - was much more important in Canada than in the United States. In 1966, governments contributed about 17 per cent of total savings in Canada by running surpluses, whereas in the United States all levels of governments ran deficits which resulted in a negative contribution of U.S. governments to gross savings in 1966. But as the 1970s progressed, sharp changes occurred not only in the source of financing between Canada and the United States, but also in the personal savings rates as recorded in both countries.

First of all, the personal share of savings (excluding CCA) in Canada rose steadily in the 1970s, reaching 31.6 per cent in 1978, while the U.S. share in 1977 was actually below its 1966 level. Thus personal savings contributed more to the level of gross savings in Canada than in the United States as the decade of the 1970s closed. In Canada, government contributions to savings, which were strongly positive in the mid-1960s and even in 1973, became sharply negative thereafter. By the late 1970s, governments in both Canada and the United States were dissaving by about similar relative amounts. Finally, the Canadian personal savings rate soared in the 1970s, climbing to 10.9 per cent on two occasions (1975 and 1978), while in the United States the personal savings rate declined and remained quite low in the 1970s. The personal savings rate represents the proportion of personal disposable income which the personal sector does not spend on goods, services, or transfers.

We have contacted officials in Statistics Canada to see if there are any measurement explanations (statistical definitional reasons) which may account for the sharp upward hike in the Canadian personal savings rate in the 1970s compared to the seemingly low personal savings rate in the United States. From our conversations we are satisfied that the statistical conventions and practices applied in both countries are nearly identical. What is different between the two countries are the external factors which affect savings and spending decisions, particularly institutional arrangements and inflation experiences.

First some comments on how savings are defined and allocated by sector. In both countries, personal savings are defined to include private pension fund contributions, though they exclude employer and em-

ployee contributions to social security funds. In Canada such exclusions from personal savings include contributions for CPP, QPP, UIC, and government pensions.

Social security savings in the Canadian context are defined as the difference between total revenues for the CPP and QPP less total social security expenditures. Social security savings, according to Statistics Canada's National Accounts, have accounted for between some 26 per cent and more than 100 per cent of the amount of total government savings since 1966. In the latter part of the 1970s social security savings have been over $2 billion per annum, while in 1978 the recorded total flow of government dissavings, including the social security system, was $4.3 billion. Thus while in 1978 social security savings as a proportion of government savings were in fact in excess of 100 per cent, they represented only 4.5 per cent of total Canadian gross savings in that year.

In summary, saving by Canadian governments in the late 1970s contributed negatively to the total pool of gross savings, but government deficits would indeed have been far worse were it not for the fact that the social security system in Canada became an important source of savings for the economy.

In the United States, the statistical relationship between government savings, social security savings, and total gross savings is slightly different. In 1974, the Department of Commerce recorded a $6.1 billion surplus on the U.S. social insurance fund, while all levels of government recorded a $3.2 billion deficit. By 1977, U.S. government deficits had climbed to $18.6 billion, while the deficit on social security funds rose to $10.1 billion. Thus the U.S. social insurance fund was in deficit in 1977, while Canada's CPP fund is not projected to go into deficit until after the mid-1980s. Whether CPP contribution rates will or should rise to halt the potential fund deficits is important. In any event, if the CPP becomes a pure pay-as-you-go system - such as the Royal Commission projections for fund C (which has the fund stabilizing at $36.1 billion in 1991) - this implies that all levels of government will be recording larger deficits, and the CPP share of total gross savings will decline to about zero in the early 1990s.

Thus in both Canada and the United States all levels of government savings became negative in the second half of the 1970s because of the huge deficits associated with their weak economies. But whereas the U.S. social security system is generating negative savings in the late 1970s, the Canadian social security system is still generating positive savings.

There still remains one issue which deserves further attention: that is an explanation for the apparent unexpectedly high rise in the personal savings rate out of disposable income in Canada in the 1970s. It is possible to speculate on a series of factors at work, although the

statisticians in Ottawa admit to not fully understanding all the differences. The following factors appeared to play a role in explaining the differences in personal savings behaviour:

1. Contractual private savings in Canada have received in the 1970s very important incentives which were not provided in a similar way in the United States - in particular, the Canadian incentives to save via deferred tax instruments such as RRSPs and RHOSPs.

2. Farm sector savings are included in the definition of personal savings in both countries. For some reason, Canada's agricultural sector and its agricultural-oriented provinces recorded very heavy personal savings rates in the 1970s. Farm inventories, which are also counted as an income flow, are also defined as contributions to savings. Since the farm sector is relatively larger in Canada than in the United States, this may have had an effect of increasing Canada's personal savings rate above the U.S. level in the 1970s because of agriculture-related developments.

3. In the 1970s, medical services largely shifted from private to public financing. Thus for many families in Canada, their recorded medical care costs, which for the 1960s (and in the United States) appear primarily as personal expenditures on services, seemed lower in the 1970s. That is, Statistics Canada in their surveys now record primarily the provincial insurance costs premium as medical care expenditures, rather than the potentially much heavier private sector payments which would have been made for medical care in the absence of provincially-run plans. Obviously, the United States does not have a government-managed medical insurance care plan and this fact in itself would have resulted in an apparent decrease in personal expenditures for medical payments in Canada relative to the United States - or alternatively, a rise in the personal savings rate in Canada compared with the United States. Once again Statistics Canada officials were unable to pinpoint exact impacts on the personal savings rate of the publicly-run medical care insurance plans.(1)

Our conversations with officials in Statistics Canada suggest that there is much research yet required in this area of explaining the differences in personal savings rates between Canada and the United States.

To summarize, it would appear that the financing of medical care and the additional contractual savings advantages provided through tax incentives in Canada may account for some of the difference in the way the personal savings rate has moved in Canada compared with the United States. But there is possibly one additional effect which is important.

There appears to be a relationship, and one which is not easily understood, between personal savings behaviour and inflation.

For much of the 1970s, Canada's inflation performance was worse than that of the United States, and some observers would argue that this difference has resulted in a higher personal savings rate in Canada as compared to that country. Add to that explanation the ability to deduct mortgage interest payments in the United States from personal taxable income, and one may see that consumer outlays in the United States (either for housing expenditures directly or indirectly for other consumer goods) have an added incentive which does not exist in Canada.

The offical Canadian thrust has been to emphasize savings (RRSPs and RHOSPs), while mortgage payment deductibility provides the U.S. consumer with a spending thrust.

Once again, this subject is extremely complex and requires detailed research. We have only attempted to identify some of the factors at work which may explain why Canada's personal saving rate climbed in the 1970s, so that by 1978 it stood at nearly double the rate registered in the United States.

Table 44
The Financing of Savings - Canada and the United States - Selected Years 1966-1978

Year	Personal savings to gross savings		Government savings to gross savings		Gross business savings (including non-residents)		Personal savings to personal disposable income	
	Canada	U.S.	Canada	U.S.	Canada	U.S.	Canada	U.S.
	(Per cent)							
1966	17.3	26.8	17.6	-1.0		74.2	6.7	6.5
1970	22.5	35.3	17.9	-6.5	59.6	71.2	5.3	7.4
1973	24.8	32.4	12.9	2.9	62.3	64.7	9.1	7.8
1975	26.3	41.1	-.4	-32.9	74.1	91.8	10.9	7.4
1976	29.4	28.6	-.0	-13.9	70.6	85.3	10.8	5.7
1977	30.5	24.6	-3.4	-6.8	72.9	82.2	10.7	5.1
1978	31.6		-8.1		76.5		10.9	5.4e

Sources Economic Report of The President (January, 1978) and U.S. Department of Commerce, Survey of Current Business, Vol. 58, No. 11, Nov. 1978.

Statistics Canada, National Income and Expenditure Accounts, First Quarter 1971, Third Quarter, 1978.

Table 45
Sources of Gross Savings in Canada, 1971-1978

Year	Personal savings	Corporate and government business enterprises	Governments	Non-residents	Capital consumption allowance	Total gross savings	Supplementary data: CPP and QPP savings	Supplementary data: Life insurance companies and trusteed pensions(a)
				(Millions of dollars)				
1971	3,509	3,010	2,510	-184	10,500	20,301	1,278	22
1972	5,015	3,538	2,570	667	11,471	23,405	1,375	24
1973	7,320	4,853	3,832	242	13,355	29,481	1,472	25
1974	9,406	4,907	6,122	1,999	16,046	38,341	1,780	29
1975	12,154	7,667	-212	5,252	18,368	40,125	2,003	32
1976	13,605	7,269	-43	4,347	20,783	46,212	2,183	35
1977	14,914	8,324	-1,703	4,580	23,184	48,939	2,259	36
1978	16,907	9,807	-4,325	5,636	25,145	53,435	2,383	

Note: Adjustment on grain transactions, and the residual errors are included in the total.

a Flow of funds data taken from Statistics Canada, Financial Flow Accounts, Volume II, 1961-1976 (13-563) and Second Quarter 1978 (13-002).

Source Statistics Canada, National Income and Expenditure Accounts, First Quarter 1971, Third Quarter 1978.

Table 46
Social Security Savings in Canada, 1968-1978

Year	Total revenues CPP and QPP	Total expenditures CPP and QPP	Social security savings	Total government savings	Social security savings as a percentage of government savings
			(Millions of dollars)		
1968	1,040	37	1,003	3,030	33.1
1969	1,190	77	1,113	4,183	26.6
1970	1,327	134	1,193	3,327	35.8
1971	1,478	200	1,278	2,510	50.9
1972	1,657	282	1,375	2,570	53.5
1973	1,875	403	1,472	3,832	38.4
1974	2,318	538	1,780	6,122	29.1
1975	2,780	773	2,003	-212	greater than 100
1976	3,282	1,097	2,183	-43	greater than 100
1977	3,686	1,427	2,259	-1,703	greater than 100
1978	4,164	1,781	2,383	-4,325	greater than 100

Source Statistics Canada, National Income and Expenditure Accounts, Preliminary Release for Fourth Quarter 1978, and First Quarter, 1971.

Approximate Estimates of Construction Costs and Employment Generated by Selected Energy Projects

Oil and natural gas projects	Construction period	Direct employment (Approximate total man-years)	Indirect employment (Approximate total man-years)	Annual operating employment (Annual jobs)	Construction cost (Millions of 1977 dollars)
1. Delta/Beaufort(a)					
a) Exploration	1978+	N/A	N/A	400	N/A
b) Development	1983-85	1,000	3,000	300	N/A
2. Dempster Pipeline	1983-85	6,000	26,000	130	1,700
3. Alaska Highway Pipeline	1979-82	13,000	55,000	400	2,900
4. Westcoast Expansion(a)	1978	500	1,500	47	150
5. "Conventional Areas" Gas(a)	1978+	N/A	N/A	N/A	N/A
6. Gas Swaps	1979+	N/A	N/A	N/A	N/A
7. TCPL Expansion	1979+	N/A	N/A	N/A	N/A
8. Q & M Pipeline	1979-81	1,400(b)	4,200(b)	N/A	320
9. Panarctic Exploration(a)	1973+	N/A	N/A	N/A	N/A
10. Polar Gas	1982-87	15,000(b)	45,000(b)	460(b)	6,500
11. Arctic Pilot Project	1979-82	N/A	N/A	N/A	900
12. Tenneco LNG Project	1979-83	3,400	10,200	235	460
13. Scotian Shelf Exploration(a)	1978+	N/A	N/A	N/A	N/A
14. Eastcan Exploration(a)	1978+	N/A	N/A	N/A	N/A
15. Kitimat	1979-80	5,000	15,000	150	650
16. Alaska Highway Oil Pipeline	N/A	N/A	N/A	N/A	N/A
17. Alberta Coal Conversion	1983-86	N/A	N/A	N/A	N/A
18. "Conventional Areas" Oil(a)	1978+	N/A	N/A	N/A	N/A
19. a) Tar Sands III	1980-85	20,000	60,000	3,200	3,000
b) GCOS Expansion	1979-81	250	750	25	125
c) Syncrude Expansion	mid 1980s	8,000	24,000	1,000	1,200
20. Cold Lake	1981-86	15,000	45,000	2,400	3,000
21. a) Heavy Oil Upgrading: Saskatchewan	1979-81	5,000	15,000	300	700
b) Heavy Oil Upgrading: Alberta	1982-84	5,000	15,000	300	700
22. Oil Storage					
a) Wabanex	1978+	1,000	3,000	50	110
b) Canso	1978+	200	600	50	200
Total oil and gas projects		99,750	323,250	9,500	22,600

Approximate Estimates of Construction Costs and Employment Generated by Selected Energy Projects

Electricity-related projects	Construction period	Direct employment (Approximate total man-years)	Indirect employment	Annual operating employment (Annual jobs)	Construction cost (Millions of 1977 dollars)
1. Hat Creek Power Development					
a) Fluid Bed Demonstration	1979-83	800	2,400	200	100
b) Thermal Station	1984-87	5,000	15,000	300	1,000
2. Columbia River Revelstoke Development(a)	1978-84	11,000	33,000	80	1,500
3. Amok-Cluff Lake	1978-80+	N/A	N/A	300	135
4. Key Lake Mining	1978-83	N/A	N/A	300	200
5. Nelson River Transmission(a)	1974-86	N/A	N/A	N/A	450
6. Thunder Bay Terminal(a)	1976-79	600	1,800	50	40
7. Elliot Lake Mining					
Denison Expansion(a)	1978-82+	N/A	N/A	1,000	N/A
Rio Algom Expansion(a)	1978-80+	N/A	N/A	1,000	210
Preston Mines	1979-84	N/A	N/A	1,000	N/A
8. a) Bruce B Reactors(a)	1976-85	16,000	48,000	600	2,200
b) Bruce B&D Heavy Water	1974-81	13,000	39,000	1,300	1,500
9. Pickering B Expansion(a)	1974-83	12,000	36,000	450	1,500
10. Darlington	1978-87	18,000	54,000	600	2,500
11. James Bay(a)	1974-85	65,000	195,000	500	11,000
12. Quebec Nuclear:(a)					
a) Gentilly II	1974-80	4,000	12,000	250	500
b) Laprade	1974-82	7,500	22,500	550	710
13. Maritime Energy Corp.(a)	N/A	N/A	N/A	N/A	N/A
14. Lepreau Reactor(a)	1975-80	4,500	13,500	227	500
15. Fundy Tidal Power	1982-88	8,400	25,200	50	1,300
16. Cape Breton:					
a) Donkin Mine	1979-82	1,500	4,500	1,000	100
b) Surface Mine	1980-81	500	1,500	100	40
c) Lingan Power Station(a)	1976-85	1,000	3,000	100	400
17. Fluid Bed Boiler (P.E.I.)	1979-87	200	600	20	6
18. Gull Island	1978-85	11,000	33,000	80	1,400
19. Electricity Exchanges	N/A	N/A	N/A	N/A	N/A
20. Glace Bay	1978-82	300	900	N/A	18
Total Electricty Projects		180,300	540,900	10,000	27,300

Appendix Table 1 (Concluded)
Approximate Estimates of Construction Costs and Employment Generated by Selected Energy Projects

Conservation programs	Construction period	Direct employment	Indirect employment	Annual operating employment	Construction cost
		(Approximate total man-years)		(Annual jobs)	(Millions of 1977 dollars)
1. Canadian Home Insulation Program(a)	1977-85	N/A	N/A	3,000	5,000
2. Retrofit of Federal Buildings(a)	1978-83	N/A	N/A	N/A	115
Total All Projects Identified Here		280,050	864,150	22,500	55,000

a Projects already underway.
b Estimates not presented in detailed tables.

Source Background material for statement by Honourable Alastair Gillespie at Federal-Provincial Conference of First Ministers, February 13-15, 1978.

NOTES

(1) In a later study, one of the authors investigated this aspect in more depth. In 1962 medical care and health costs amounted to 4.5 per cent of personal disposable income (PDI) in Canada, and 6.1 per cent in the United States. By 1979 the respective ratios had changed to 2.6 per cent of PDI in Canada and 9 per cent of PDI in the United States. See Arthur W. Donner, "Canada's Economy in the Grip of a U.S. Recession: Outlook 1980-1981," Research Securities of Canada Ltd., June 1980.

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The Royal Commission on the Status of Pensions in Ontario

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Report of the Royal Commission on the Status of Pensions in Ontario

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Foreword

The Royal Commission on the Status of Pensions in Ontario was established on April 20, 1977 by the Ontario Government under the Public Inquiries Act. The Commission was required by its terms of reference:

1. *To study the impact on the economy of different systems of financing retirement pension plans and arrangements including Ontario's financing and investment role in the Canada Pension Plan.*

2. *To examine the terms and conditions of existing retirement pension plans and arrangements, to evaluate their effectiveness in terms of present social and economic circumstances, and to study the interrelationships among the private sector plans, the Canada Pension Plan, and public employee pension plans.*

3. *To make such recommendations in relation to the above as the Commission deems appropriate.*

Five members were appointed to the Commission. Their diversity of background and experience reflects the many-sided nature of this inquiry. The Chairman, Donna J. Haley, Q.C., practises law in Toronto and, since 1974, has been Chairman of the Pension Commission of Ontario. She also served as a member of the Task Force on Employee Benefits, which in 1974 advised the Ontario Ministry of Labour on amendments to the Employment Standards Act.

Alfred H. Cordell, of London, a chartered accountant, is Vice-President in charge of Public Affairs and Marketing Services for 3M Canada Inc. He was previously chief financial officer of the company and was involved in the work of the Financial Executives Institute on Pensions. Donald G. M. Coxe, of Guelph, is a lawyer and Executive Vice-President of Mu-Cana Investment Counselling Ltd.; he is also a former member of the Canada Pension Plan Advisory Committee. Charles McDonald, of Windsor, recently retired as Director of the Retired Workers and Community Service Department of the United Auto Workers' Union; he served previously as President of his UAW local union. Mr. McDonald is

currently President of the National Pensioners and Senior Citizens Federation. He was appointed to the Commission to replace Terry Meagher, Secretary-Treasurer of the Ontario Federation of Labour, who resigned in January, 1978. Walter G. Upshall, Toronto, retired from the T. Eaton Company Limited having served as both personnel manager and credit manager, and now operates his own investment counselling business. He has served as a member of the Ontario Advisory Council on Senior Citizens.

The Commission therefore had strong voices, not only from management and labour but also from the three major consumer categories: the employed, the self-employed, and the retired. Its members also brought to bear certain relevant financial, legal, and social skills. This combination of experience and perspectives was indispensable to the Commission's understanding of pension issues.

Such a diversity of viewpoints admittedly made for lengthy deliberations. Nevertheless, the Commission felt obliged to explore every avenue towards consensus within its own membership. That consensus has emerged, not without difficulty, but as the ultimate product of a common concern for the social and economic objectives involved. A remarkable degree of unanimity was achieved by the Commission which gives hope for the resolution of the issues in the larger arena of public policy making.

A PLAN FOR THE FUTURE

All the recommendations of the Commission which appear throughout the other volumes of its report are consolidated in this Summary Report. We have also included some general findings and conclusions of the Commission. These statements are followed by the pertinent recommendations. The recommendations are not necessarily in the same order as in the earlier volumes of the report. For the factual background and the reasoning underlying the conclusions of the Commission, the reader is urged to refer to the report itself.

ACKNOWLEDGEMENTS

The Commission is indebted to many for the ready assistance given to it in its undertaking. Throughout, the Commission has found pension regulatory authorities, ministries, and agencies of government at all levels, members of the actuarial profession and representatives of the pension industry ever ready to respond to the needs and questions of the Commission. Particularly are we indebted to J. Wells Bentley, Superintendent of Pensions for Ontario; Richard Humphrys, Superintendent of Insurance, Ottawa; David Stouffer and John Ilkiw, Ministry of Treasury and Economics, Ontario; Elizabeth Aboud, Benefits Policy Branch, Civil Service Commission of Ontario; Frank Nacsa, Ministry of Revenue, On-

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The Commission's own consultants, who are listed individually in Volume IX of the report, have worked diligently with the Commission from the very early stages of the undertaking and have each contributed in a special way to the results of the Commission's work. Special thanks are due to Laurence Coward and Keith Cooper for advising on the actuarial work undertaken for the Commission and the analysis of the results.

A small but very able staff has kept the work of the Commission going forward when it could well have been engulfed by the magnitude of the study. Each of them deserves to be mentioned by name: Ann C. Jamieson and Brian Borich, researchers; Michael Carr, shorthand reporter; Diane Nelles, Anna Dopta, Roswita Busskamp, editorial and production work; Flora McAfee, executive secretary; Laurel Murdoch, librarian; Diane Daly and Chet Chan, word processing and production.

Special acknowledgement must be given to the work done by Marie Corbett, Legal Counsel to the Commission, in co-ordinating the whole of the Commission's endeavour, and to Gordon Milling, the Editor, whose painstaking efforts and advice to the Commission have been fundamental to the ultimate publication of the report.

For co-operation from the public and interested parties on all sides, the Commission is grateful.

Donna J. Haley, Q.C.

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General Conclusions

The Commission has found that there is at present no system for retirement income provision in either Ontario or Canada. There are a number of government programs which overlap in coverage or which have different goals in their design. These programs when coupled with employment pension plans, Registered Retirement Savings Plans, and informal retirement savings undertaken by individuals result in some receiving too little and some receiving more assistance than needed in retirement. This creates dissatisfaction, poverty for some, and some waste of taxpayers' money. There is great need, therefore, to view all retirement income provision as a system; to analyze the place and effectiveness of each type of provision in the system; and to assess the overall result against some well-defined principles and objectives. In undertaking this assessment, the Commission has been obliged to consider programs which are beyond the legislative competence of the Province of Ontario and to make recommendations accordingly. We trust the Government of Ontario will be able to convince the federal government and the other provinces that there is an urgent need to co-operate to provide adequate assistance for our retired population, with a maximun of benefit for the funds committed.

The Commission is of the opinion that the Government of Ontario should view the provision of retirement income as a combined responsibility of the individual and government, and take steps to encourage and support initiatives which will result in a retirement income system made up of government programs, employer-employee arrangements regulated by government, individual plans encouraged by government support, and personal savings.

In concluding that Ontario should seek a system of retirement income provision for its residents the Commission believes that government should design social programs to achieve two goals:

- *to guarantee a minimum level of retirement income below which no person's income is permitted to fall;*

- *to replace a measure of pre-retirement earnings in retirement.*

A system designed to meet these objectives need not and should not deny the primary responsibility of the individual to use his or her own best efforts to provide for the retirement years. We recognize, however, that some will always be unable to make adequate provision without direct government support; and most require a program or programs within which a portion of current income is regularly set aside for retirement purposes. In the latter category we may expect some measure of compulsory participation, as in the Canada Pension Plan, if only because such a program cannot work on any other basis. At the same time, there remains ample room for individuals to make their own arrangements for income in retirement according to their particular needs and lifestyles. The Commission sees a positive social value in preserving and, where possible, enlarging the area of individual discretion in planning for retirement. Accordingly, it is desirable that government use its power to extend certain incentives and opportunities for individuals to save and thereby allow them to take responsibility for part of their post-retirement living standard.

For an efficient and effective system, government should strive to co-ordinate the several elements of retirement income (universal programs, income-tested programs, earnings-related plans, and incentives for individual saving) and avoid well-meaning but costly duplication of assistance and administrative effort. The Commission has observed too little evidence of a systematic approach in the present array of programs and concessions for the elderly.

The Commission has examined the adequacy of existing government programs (including those at the federal level since these are integral elements in any retirement income system) and recommends changes to allow achievement of the guaranteed minimum income goal. The Commission's concept of "available income," used in the report, is a technique for assessing the value of non-monetary benefits in money terms. Its conclusion of what is adequate for January 1, 1979 should not be applied to 1980 or 1981 without allowance for increases in the Consumer Price Index. One must be careful to distinguish between the basic adequacy level and its indexing component.

In addition to Old Age Security, income replacement in retirement is now provided through the Canada Pension Plan, employment pension plans, and other less formal arrangements. The CPP provides a reasonable amount of replacement income, especially for those in the lower income ranges, and any balance required is left to employment pension plans and individual arrangements.

Employment pensions are widely criticized for failing to do the job required of them. It is clear to the Commission that employment pensions alone should not be expected to fill the gap in income replacement. They are only one way of doing so. Too often the assumption is made that changes in these pensions, perhaps by government action, is the complete answer to any lack in retirement income provision. Thus, for instance, there are demands for indexing of all employment pensions through government compulsion or guarantee.

Employment pensions as currently designed are criticized on two major grounds: lack of coverage and lack of portability. The more difficult of these to answer is portability. The concept of portability in the context of employment pension plans is widely misunderstood. In the Commission's opinion it is impossible to achieve portability in a system of individual employer plans. The only recourse is to a universal, compulsory plan, which will solve not only the portability problem but the coverage problem as well.

The same conclusion was reached when the Canada Pension Plan was launched in 1966. The Canada Pension Plan has worked well to supply a measure of replacement income as contemplated in our second goal for government. It is natural therefore for many to advocate its expansion to make up for the short-comings of employment pensions. Difficulties in financing the CPP, however, have led many to question the advisability of expanding the system and compounding the difficulties for future generations.

The Commission studied and rejected the proposals for both expanding and fully funding the CPP. It does not, however, abandon the concept of a compulsory plan for all workers. In the opinion of the Commission the Government of Ontario should adopt without delay a provincial universal retirement system (PURS), with a money-purchase design, to provide a reasonable amount of replacement income, on an earnings-related base, in a compulsory, portable, universal and fully funded plan, with individual choice for investment and forms of benefit. Such a system will provide funds to the private capital markets. It could be integrated easily with similar systems adopted by other provinces, and so provide a network of portability across Canada.

With such a plan the goal of replacement income can be met for those working at or below the Average Industrial Wage who form the bulk of Ontario's working population, and for whom the government, as a matter of social policy, has a particular concern in retirement. Employment pension plans and other arrangements are then free to develop in a supplementary role, and to accommodate individual wants and preferences. Co-ordination of PURS with existing elements of retirement income will provide a system of benefits for those retiring in the future.

Difficult issues arise from the plight of many of today's elderly who spent their productive years in low-paid employment, with no opportunity to set aside monies for retirement either as individuals or as members of employee groups. Many were also too far along in their working careers to benefit much from the Canada Pension Plan. In even worse plight are workers' survivors (mostly women) among today's elderly. Survivor benefits from employment pensions are often either pitifully small because they are a percentage of a small pension, or non-existent. The government's guaranteed minimum level of retirement income allows them to survive, but their quality of life is severely limited.

This state of affairs brings demands for improvements in the Canada Pension Plan, improvements in survivor benefits in both the CPP and employment pension plans, and coverage of unpaid workers under the CPP. The Commission has considered carefully both the problem and the proposed answers, but finds these proposals wanting because they would not solve the problems of today's elderly. Before considering changes that might enhance the incomes of future survivors of CPP participants, it is essential to recognize the immediate needs of today's elderly who could not hope to benefit from those improvements, however generous. The answer, barring fundamental remodelling of the CPP, is to be found in the income-tested supplements provided under the Old Age Security Act and through ancillary guarantees at the provincial level. What is needed, if the standard of living of today's elderly is required to be improved, is a direct increase in money payments through the Guaranteed Income Supplement (and in Ontario, GAINS). Such increases would go to the very heart of the problem now. Such a policy would also leave the other retirement income arrangements intact, to make proper provision in the future as they have been designed to do. The GIS eventually will decline in importance as the benefits from other arrangements build up, but will never completely disappear. In the Commission's opinion, improvements based on actual need are required. Improvements in universal payments, such as the OAS, may provide monies to those who do not need them and thus dissipate resources which could be paid through GIS to the special group of today's elderly. Once again the need to avoid patchwork measures is underlined; but that is not to say we should sit idly by and see today's elderly suffer from circumstances they could neither foresee nor provide against.

In examining the role of employment pensions, the Commission has looked beyond the question of coverage to the likelihood that those who do become members of such plans will in fact receive the promised benefits. Since the mid-1960s legislation in the federal and most provincial jurisdictions has attempted to improve vesting and solvency of pension plans in both the private and public sectors; but it is still true that most workers who move from job to job several times during their careers will lose a large portion of the potential pension offered by the plans they may have joined. Part of the problem arises from the most common plan design: the defined benefit. This design is capable

of providing satisfactory levels of pension for those having long and continuous service with the same employer; but those requirements - unexceptional as they may have appeared a generation ago - are increasingly unsuitable in terms of today's mobile work-force. Inadequate vesting may result in a worker's receiving no retirement income at all; but even with full vesting, the amounts payable on retirement will seldom reflect the person's real income toward the end of his or her career. Because this problem cannot be alleviated by requiring earlier vesting, it does not lend itself to solution by a simple change in the existing statutory vesting rule of age 45 and 10 years' service. If the defined benefit plan is to continue to play a part in the scheme of employment pension plans - and therefore part of the system we envisage - it must be regulated so as to provide a more meaningful measure of vesting - as well as earlier vesting - and also be thoroughly explained to plan members.

Pension wind-ups, voluntary and involuntary, have raised questions about the adequacy of the solvency provisions in regulatory legislation. Proper funding is required so that the promised pensions will be paid, regardless of the continued existence of the employer. Even where the legal requirements have been met, however, some of the promised benefits may not have been completely funded at a given time and so cannot be assured if the plan is discontinued. Failure to realize this limitation on pension entitlement causes disappointment and bitterness. The Commission believes that a clear disclosure of funding realities to plan members will alleviate the problem by encouraging pressure for change through the bargaining process. The alternative of a government guarantee of pension entitlements is not one the Commission would endorse. Use of government guarantees, paid for by all taxpayers, to support contracts entered into voluntarily, seems to the Commission an inappropriate use of government authority - even if employment pension plans were universal and not limited to about 50 per cent of the work-force. Other possible measures include adoption of a completely different approach to funding, with solvency to be maintained on a wind-up basis rather than on the assumption that the plan sponsor and the plan itself will continue indefinitely. A possible but less desirable approach is to curtail the use of defined benefit plans and move to money-purchase plans which by definition are fully funded.

The Commission recognizes the continuing inroads of inflation on fixed incomes. The objective of replacing income and so ensuring a certain standard of living in retirement requires a definite answer to this problem. The Commission supports indexing as it currently exists in government social security retirement income programs (OAS, GIS and CPP). It cautions however against the view that all retirement income must be indexed - particularly if any degree of compulsion is to be placed on the sponsors of employment pension plans to provide indexed benefits, with or without government assistance. Again, these pension plans cover only a segment of the population. Any government intervention should be on a universal basis. The desirability of providing

some inflation protection for all retired persons is reflected in the Commission's recommendation, from which one Commissioner dissented, for an Inflation Tax Credit, to apply to a broader range of sources of retirement income.

A retirement income system must also avoid inequities among the participants in the system. In general, women have fared less well than men but often for reasons which are imbedded in social and work-force structures. Changes to bring about a system should take account of such inequities.

One of the more controversial recommendations of the Commission will be its recommendation for the use of unisex mortality tables in calculating annuity rates for PURS. The premise is that women should receive the same monthly income payments as males from identical cash accumulations in any mandatory government plan such as the PURS plan recommended by the Commission. Any other result from government compulsion, would, in the Commission's opinion, be unacceptable. For this reason the Commission's recommendations on the use of unisex tables for the PURS annuities was unanimous.

More controversial still, and recommended by only three of the five Commissioners, is the use of unisex tables in the calculation of annuity rates for all money-purchase employment pension plans and RRSPs, which are based on lump-sum accumulations.

The question of retirement age is one of general concern. The Commission has considered retirement age for government programs separately from retirement age in other arrangements. All government retirement income programs and the Canada Pension Plan now employ age 65 for eligibility for benefits. In the Commission's opinion any change to lower this age should be made in concert for all programs. The social and economic consequences of such a move would have to be carefully considered before it is undertaken.

Retirement age in employment pension plans should move towards greater flexibility for the individual. Most employment pension plans now provide early retirement options on an actuarially reduced basis. The Commission believes these options should be available to all plan members from age 60.

Whether or not the right to work is protected through amendments to the Ontario Human Rights Code or the Employment Standards Act beyond the age of 65 is not primarily a pension matter. The Commission takes no position on the elimination of mandatory retirement as such. However, if the age is set above 65 and as a result pensions accrue fully before actual retirement, the pensions should be actuarially increased accordingly.

Employment pension plans for Ontario public sector employees provide the best overall benefits of employment plans in general. They also suffer from the same problems of vesting and portability as the private sector plans, although offset in a significant degree by reciprocal transfer agreements. The Commission endorses two main principles for these plans:

- *public sector employee plans should be subject to all requirements of the Pension Benefits Act as are private sector plans;*

- *the government should not lead the private sector by providing pension benefits which, taken as a whole, are more generous than those provided in private sector plans.*

The greatest concern the Commission has for the public sector plans is the present lack of overall government control of the present and future cost of pensions for its employees. Some comparability basis for data is needed to assess the cost of each plan in relation to the others, and some central authority is needed for the purpose of controlling the total cost. A fair allocation of total cost between employer and employees is also needed. The Commission has made specific recommendations for the control, allocation, and containment of costs. It cautions, however, that if firm overall control cannot be established now, consideration should be given to changing to a money-purchase design for these plans.

Throughout its investigations the Commission has been concerned about cost-benefit relationships, which are equally important in all elements of a retirement income system. If true costs are determined, then it is possible to decide whether or not a benefit is too costly. If indexing is costly, is it too costly in relation to the need for indexing all (or part) of a person's retirement income? Is some other benefit more urgent? The Commission believes that through disclosure to plan members much can be achieved in adjusting the elements of a system to the needs of the individual if full costs are related to benefits in the bargaining process.

Retirement income costs affect the competitiveness of the economy. At the same time, to the extent retirement income arrangements involve large accumulations of capital, they have a significant impact on capital markets and on the economy. The temptation is to regulate retirement income vehicles in such a way that they become an economic tool. The Commission believes that a retirement income system should be built first to provide the best retirement income at the lowest cost and with appropriate security. However, the benefit to the economy of such a system should not be ignored. The Commission has rejected full funding of the CPP because of the enormous capital accumulations which would result - all of which would be available to governments under the present arrangements. We are recommending instead, a fully funded provincial retirement savings plan for all workers which will provide

capital to the private markets. If such capital is used to increase productivity, the whole economy will benefit. Retirement income benefits will increase as a result of real growth and not simply by a transfer from the active work-force to the retired population.

Because of its considerable size, this report will be read in its entirety by only a few; others may find only a few sections relevant to their particular interests. It is the hope of the Commission, however, that the main thrust of its conclusions will stand out clearly from the detailed analysis. The following three points, in the opinion of the Commission, constitute the essence of its thinking at the close of its deliberations:

- *There is a need for a retirement income system which will rationalize government, employer, and individual plans for retirement income. The starting point for such a system must be the individual; only then will it be possible to determine what roles are appropriate for governments, employers, and other organizations. We have noted throughout the report the patchwork effect of unco-ordinated initiatives which result in unequal treatment for those in retirement and waste of our resources.*

- *Individual planning for retirement income starts with information about the components of that income. Without full and accurate information, no individual can be expected to judge how much should be saved from current consumption or in what way savings should be used to achieve the desired objective at retirement age and afterward. Disclosure of all relevant information therefore is essential, not only for individual arrangements such as RRSPs and annuities, but also for the more complex group plans: employment pensions and the Canada Pension Plan. Only when the individual is well-informed is it realistic to speak of measures to expand the area of individual choice in providing for retirement income. This proposition is equally true whether the freedom to choose is exercised in a purely personal way, for example in deciding how to use one's own savings; through a particular group, as in making one's preference known for a type of employment pension plan; or as a voter, in supporting a political party on the basis of the social programs it has implemented or promises to introduce.*

- *In the interest of equity in every aspect of an overall system, cost-benefit relationships must be recognized, in both the design of a particular plan and the interrelationship of that plan and other components of the system. Planning must take into account long-run as well as short-run costs, so that each generation will know that its contribution and benefits are fair in relation to those of succeeding generations. Short-run solutions must be avoided if they are likely to jeopardize the*

right of tomorrow's workers and taxpayers to economic security before or after they retire.

In the system put forward by the Commission in its recommendations the two goals of government will be achieved by OAS and the income-tested programs which will provide a guaranteed retirement income, and by the Canada Pension Plan and the provincial retirement savings plan, which will replace a measure of pre-retirement earnings. Together with improvements recommended by the Commission for employment pension plans and incentives for individual savings, we may look forward to a system which will deliver retirement income in the best and most equitable way.

To assist the reader, a tabular presentation of the Commission's Plan for the Future based on its recommendations, and a guide to the recommendations themselves follow.

Sources of Retirement Income	Gross Income Replacement Levels (per cent of Average Industrial Wage)	Retirement Age	Indexing	Funding	Investment	Regulation
Old Age Security	10-15	65	Fully to CPI	Pay-go	N/A	Federal
Guaranteed minimum income (for those with little or no income from CPP, etc.) through GIS and GAINS		65	Fully to CPI(a)	Pay-go	N/A	Federal and provincial
Canada Pension Plan	25	65	Fully: to AIW pre-retirement, to CPI post-retirement	Pay-go	Guaranteed securities of provincial Crown agencies	Federal and participating provinces
Provincial Universal Retiremert System (PURS)	15-20	65	Participating annuity option; Inflation Tax Credit	Fully funded	Private sector, employee control	Provincial
Total Gross Income Replacement	50-60					
Free OHIP and Drug Plan; Ontario tax grants		65	N/A	Pay-go	N/A	Provincial
Employment pension plans (private and public sector)	May or may not be integrated with CPP and PURS; 70% maximum of pre-retirement earnings	As per plan; option from age 60, actuarially reduced	Participating annuity option or part of pension promise; Inflation Tax Credit	Provisionally to fully funded	Private sector, employer control	Provincial control with federal through taxation
RRSP	Maximum contributions: $5,500 if no pension plan; $3,500 if pension plan member	60-71	Participating annuity option; Inflation Tax Credit	Fully funded	Private sector, individual control	Federal through taxation
Other individual arrangements		N/A	N/A	Fully funded	Private sector, individual control	Federal through taxation if applicable

a GAINS is not indexed but the guarantee level has been increased periodically with increases to OAS and GIS.

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Part I

Government Retirement Income Programs

(Volume I)

The Commission examined the income and benefits provided for the elderly by government programs and found:

(i) The governments of Canada and Ontario guarantee a monthly income (at January 1980) indexed quarterly to the increases in the cost of living amounting to $371.06 for an individual and $722.12 for a couple aged 65 and over.

(ii) This income is provided to those aged 65 and over by: Old Age Security (OAS); the federal Guaranteed Income Supplement (GIS); Ontario's Guaranteed Annual Income System (GAINS) which provides income to low-income pensioners. The Canada Pension Plan provides income to retired workers. In addition, government programs provide a wide range of benefits: some are available to all aged 65 and over (OHIP coverage and prescription drugs without charge, Ontario tax grants, and income tax age exemption); and some are available on an income-tested basis (pensioner property tax relief, subsidized housing).

(iii) Income from government programs is protected against inflation, with OAS and GIS indexed quarterly to increases in the cost of living as measured by the Consumer Price Index (CPI), and CPP indexed annually. GAINS levels reflect increases in OAS and GIS and are increased from time to time.

(iv) The majority of today's elderly rely on government programs for their income in retirement.

GENERAL RECOMMENDATIONS

The Commission makes the following general recommendations for government retirement income programs:

Recommendation 1. The governments of Canada and Ontario should continue to guarantee a minimum level of income to all persons 65 and over sufficient to provide an adequate amount of income to allow them to participate in Canadian society.

Recommendation 2. The income provided through OAS, GIS, and CPP should continue to be protected against inflation.

Recommendation 3. The Government of Ontario should resist any move towards increasing existing benefits for the elderly now provided on a universal basis. Allocation of monies to provide income or services in retirement should be directed towards those in need.

Recommendation 4. An approach should be adopted for all social assistance in Ontario to reflect actual rather than assumed need.

Recommendation 5. The Government of Ontario should maintain the age of 65 as the age at which provision of retirement income or services on the basis of need is made available out of government resources, with any future change in the eligibility age to be made in concert for all government programs providing retirement income.

EFFECTIVENESS OF GOVERNMENT PROGRAMS

Adequacy

The Commission assessed the adequacy of the benefits available from government programs to persons age 65 and over resident in Ontario, and found that at January 1, 1979, the income guaranteed to a single person with little or no other retirement income was inadequate while the income guaranteed to a married couple was adequate. For January 1980, the Commission found that the minimum adequate level of retirement income should be $5,368 yearly ($447 monthly) for a single person aged 65 and $9,201 yearly ($767 monthly) for a married couple both 65. The Commission therefore makes the following recommendations:

Recommendation 6. A well-defined standard should be adopted to determine the adequacy of income levels from all government income programs, whether or not the programs provide income in retirement. The standard suitable for determining the adequacy of levels of income should apply to all types of

beneficiaries and should reflect economic conditions affecting all the people of Ontario at the time the standard is applied.

Recommendation 7. Adequacy of income should be assessed in terms of "available income;" that is, after-tax dollars plus the value of other additional benefits. "Available income" in retirement is the total income dollars received from all government programs less income tax (if any) calculated using age 65 exemptions and other applicable exemptions and deductions, plus the value of Ontario tax credits.

Recommendation 8. In setting a minimum level for adequate income, the principle should be endorsed and implemented that a single person age 65 and over needs more than one-half the amount needed by a married couple both 65, such additional amount being one-sixth of half the amount required by a married couple both 65.

Recommendation 9. For years after 1980, the Government of Ontario should consider adopting a standard linked to the minimum wage in Ontario for determining the adequacy of the level of income provided by government programs. For example, such a minimum could be based on 70 per cent of twice the minimum wage for a married couple both 65, and about 60 per cent of the resulting amount for a single person, such amounts to be interpreted as "available income" and not as gross amounts.

Recommendation 10. The level established as adequate as determined from time to time by reference to the minimum wage standard should be increased on a yearly basis to reflect annual increases in the Consumer Price Index for periods between which there is no change in the minimum wage. When changes in the minimum wage are made, the standard should be assessed from time to time having regard to all the effects such change may have on the people of Ontario and the economy of Ontario and not just to the effect of changes in the Consumer Price Index on the minimum level for adequacy.

Recommendation 11. Net replacement ratios for those in lower income ranges should be greater than for those in higher income ranges.

Recommendation 12. Assistance to low-income persons aged 65 and over should be through money payments where feasible rather than through increased services.

Inequities

While the Commission found that government programs provided a high degree of coverage and protection from inflation, it found the following inequities:

(i) In determining eligibility for government income-tested programs, some benefits such as Workmen's Compensation payments and veteran's pensions are not taken into account, so that income for the test purposes is understated.

(ii) The Spouse's Allowance program provides benefits to spouses (aged 60-64) of pensioners age 65 and over as if that spouse were age 65. It provides unequal treatment of unmarried and widowed persons aged 60 to 64 compared with those in the same age group who are married to pensioners. It also provides no benefits for pensioners whose spouses are under age 60.

Therefore the Commission recommends as follows:

Recommendation 13. In determining eligibility for government income-tested programs and the amount of income provided, all income should be taken into account, including Workmen's Compensation benefits, veteran's allowances, and family allowances.

Recommendation 14. The Government of Ontario should seek the phasing-out of the Spouse's Allowance program. Those requiring income assistance under age 65 should be cared for under the Family Benefits program or similar programs under the Canada Assistance Act.

ROLE OF ONTARIO

Although much of the administration of social security programs covering Ontario residents falls within federal jurisdiction, Ontario is in a position to adapt its own programs to give effect to the Commission's recommendations. The Commission therefore makes the following recommendations:

Recommendation 15. The Government of Ontario should give effect to the recommendations of the Commission by amending its own income-tested programs, tax system, and programs providing benefits for the elderly.

Recommendation 16. The Government of Ontario should resist any attempt to extend new services for those 65 or over, free or at reduced cost, on a universal basis, and move toward the provision of services on the basis of need only.

Recommendation 17. No steps should be taken to broaden any existing Ontario programs, such as the Ontario Tax Credits, except for the addition of an Inflation Tax Credit, (Recommendation 136), or to adopt any new assistance programs based on chronological age alone unless eligibility for these is based on real need and not on an assumed need or

a need artificially created by ignoring payments actually available to the recipient to satisfy need.

Recommendation 18. Programs providing benefits on the basis of need, including all income-tested programs and income-tested tax exemptions and credits, should take into account all income to eliminate double payments.

AMENDMENTS TO GOVERNMENT PROGRAMS

In order to attain adequacy levels determined by the Commission and to remove inequities ascertained by the Commission's assessment of the adequacy of retirement income from government programs, these programs should be amended as indicated in the following recommendations:

Old Age Security (OAS)

Recommendation 19. The Government of Ontario should seek amendments to the Income Tax Act to tax back at a 100 per cent rate payments of OAS for those persons having a net taxable income in the year as defined under the Income Tax Act, of $30,000, with suitable notch provisions so that the resulting tax backs will not decrease net taxable income below $30,000.

Guaranteed Income Supplement (GIS)

Recommendation 20. The Government of Ontario should by negotiation seek to increase basic payment levels of the Guaranteed Income Supplement to remedy any inadequacy in the level of "available income" received by single persons and to implement the recommended ratio between single and married persons so that the single person receives about 60 per cent of the amount that a married couple receives.

Guaranteed Annual Income System (GAINS)

Recommendation 21. Until changes can be made to increase the GIS as recommended, the Government of Ontario should increase without delay the payment for GAINS to bring single persons up to the adequacy level of "available income" recommended for the year in which the increase is made. (January 1980 "available income" adequacy levels: single person, $447 monthly; married couple, $767 monthly).

Recommendation 22. The Government of Ontario should adopt and implement in all programs the principle that single persons aged 65 and over need about 60 per cent of the income required by a married couple.

Recommendation 23. Except for changes in the level of benefits, maintaining a proper single to married couple ratio, and in assessing all income to determine benefits, the Government of Ontario should continue to operate GAINS on the principles now embodied in the legislation, and GAINS payments should continue to be financed from the Consolidated Revenue Fund.

Part II

Ontario and the Canada Pension Plan

(Volume V)

FINANCING THE CANADA PENSION PLAN

The Canada Pension Plan is an earnings-related contributory social insurance program designed to provide all workers with retirement income up to a maximum of 25 per cent of the average industrial wage. Although operated by the federal government, the plan is essentially a federal-provincial undertaking. Because the CPP amending formula requires that any major change be approved by two-thirds of the participating provinces (all except Quebec) having two-thirds of the covered population, Ontario is in the unique position of having an effective veto. As a result, and in view of the significant amendments that have been or are likely to be proposed, Ontario's responsibility - to assess fully the social and economic impact of the plan and make its conclusions known to the other governments - has been a prime concern of this Commission.

The Commission studied the financing of the CPP in depth, and made extensive projections on a variety of demographic, social and economic assumptions. Among its conclusions are:

The Elderly Population

(i) *The population of Canada aged 65 and over will increase from 7.9 per cent of the total population in 1970 to 10.7 per cent in 2000 and 14.5 per cent in 2020. A similar increase may be expected for the population of Ontario.*

(ii) *The "dependency" ratio of the elderly population to the working population (aged 20-64) increases between 1970 and 2050. The total dependency ratio (young and old dependents combined) declines markedly between 1970 and 1980 and gradually from 1980 to 2010. Even with a higher dependency*

cost for the elderly than for the young, the dependency burden is not excessive and is not a cause for alarm. An upturn in the total dependency ratio is evident only in 2020, giving governments 30 years of lead time to make plans to meet the requirements of an increased number of dependents.

Funding

(iii) *The present contribution rate of 3.6 per cent of contributory earnings up to the YMPE is a partial funding approach which has resulted in a fund build-up of $14.3 billion by 1978. Funds not required for current payment of benefits have been borrowed by the participating provinces and are repayable with interest.*

(iv) *On this partial funding basis, the cost of benefits and expenses will equal contributions in 1986, and the cash flow to the provinces will cease unless contributions are increased. In 1991 all of the interest payments will be required to pay benefits, and if contributions are not increased the CPP fund will start to decline. By 2001, the fund will be exhausted.*

(v) *On a pay-as-you-go basis, where benefits are paid as they fall due without any assets being accumulated, the 3.6 per cent contribution rate covers the benefit payments until after 1985. The cost would rise steadily thereafter to a peak of 9.28 per cent in 2030.*

(vi) *With full funding (i.e., level premium funding with unfunded actuarial liabilities at 1980 amortized over 50 years) the contribution rates would be required to increase to 12.53 per cent in 1980. The fund would increase from $25 billion in 1980 to $712 billion in 2000 and $8.86 trillion in 2030.*

Perceived Problems

(vii) *The potential exhaustion of the fund with the spectre of disillusioned retirees is a fanciful scenario given prominence by the press. This has resulted in unwarranted anxiety. That the fund would be exhausted sometime in the future at the present contribution rate was understood from the outset. The CPP is not thereby bankrupt; but it will soon be necessary, as originally contemplated, to settle on a schedule for changes in the contribution rates.*

(viii) *The possibility is asserted, based on low birth rates, that the number of workers available to support the retiring*

baby boom, starting about 2010, will be insufficient and will result in a refusal to pay onerous contribution rates. A subsidy to retirees is now paid for by today's workers and accepted on the basis of a social contract that generations making contributions acquire rights to contributions of future workers. Our studies show that in reality the presence of the baby boom population results in a declining pay-go cost for the CPP. Only in 2030 does the baby boom cause increased cost. By 2050 the effect of the baby boom will have disappeared. The intergenerational transfer is neither as great nor as sudden as some commentators allege.

(ix) A pay-as-you-go public pension plan does not appear to result in lower personal savings with a resulting loss of capital to the economy.

Full Funding

The Commission does not recommend full funding for the following reasons:

1. *Contribution rates would have to be increased to 12.53 per cent from 1980 to fund the plan, including amortization of the present unfunded actuarial liability of the CPP over 50 years (on a level premium basis) and to fund the plan as would be required in a private sector employment pension plan. The rate would continue at 12.53 until 2030 when it would drop to 9.66 per cent. Such a large and abrupt increase now would create dislocation through increased employer costs and disincentives for individuals to save. Increased contribution rates would lead to pressures to increase benefits.*

2. *The fund would be enormous, increasing from $14.3 billion in 1978 to almost $9 trillion in 2030. Canada's foreseeable capital requirements cannot accommodate investment of such large amounts.*

3. *Large amounts would become available for increased provincial government spending. Control of the funds through quasi-independent government agencies is no guarantee against future government intervention.*

4. *The CPP's prime role should not be that of an economic tool to control the Canadian economy.*

The Commission believes that a pay-as-you-go funding basis is compatible with the social security design of the Canada Pension Plan. It therefore makes the following recommendations:

FUNDING RECOMMENDATIONS

Recommendation 24. The Canada Pension Plan should be funded on a pay-as-you-go basis, with a contingency fund maintained at the level required to satisfy twice the year's benefit and administrative cost pay-out three years in advance.

Recommendation 25. The existing combined contribution rate of 3.6 per cent should continue unchanged until such time as the existing fund is reduced to the level required to satisfy twice the year's benefit and administrative cost pay-out three years in advance.

Recommendation 26. When an increase in contribution rates on a pay-as-you-go basis is required there should be a gradual phasing-in of increases to approximate pay-as-you-go rates by setting contribution rates six years in advance of such changes, to maintain a contingency fund at all times equal to twice the year's benefit and administrative cost pay-out three years in advance.

Recommendation 27. Until the existing fund is reduced to the level required by the recommendations, the CPP fund should be operated on the Fund C basis outlined in Statutory Actuarial Report No. 6 for the CPP, with actual payment of interest on borrowing to be made after excess funds above the level required to satisfy twice the year's benefit and administrative cost pay-out three years in advance are no longer available for lending to the provinces.

Recommendation 28. The CPP fund should be operated on the Fund C basis so that no repayment of capital of the fund is required from the provinces except on a call basis (subject to investment of the capital as required in Recommendation 30) to satisfy the purposes of the contingency fund.

Recommendation 29. There should be no increases to the benefit formula under the CPP without an increase in contribution rates on a pay-as-you-go basis with a contingency fund to satisy twice the year's benefit and administrative cost pay-out three years in advance, to cover the full cost of such increased benefits without regard to any excess funds on hand resulting from existing funding procedures.

INVESTMENT RECOMMENDATION

Present investment procedures have been criticized for giving the appearance of producing only a "ghost fund" and for providing an investment return to the fund that is lower than market rates. The Commission believes it important to provide a fund with tangible marketable assets, requiring scheduled repayment. Such investment of

the fund would in turn produce market rates of return. The Commission therefore makes the following recommendation:

Recommendation 30. The investment structure of the CPP should be altered to ensure the receipt of market rates of interest on the capital of the fund and to ensure a control of investment through links with normal market practices, by adopting the following procedures:

a) upon maturity of existing provincial undertakings, commencing in 1986, each obligation should be replaced with a twenty-year negotiable bond with a fixed maturity date issued by a provincial Crown corporation, guaranteed by the province and accompanied by a certificate of the treasurer of the province that the proceeds of such bonds are being used,

   (i) to invest in fixed assets of the provincial Crown corporation, or

   (ii) to refinance outstanding debt of the provincial Crown corporation originally used to finance acquisition of fixed assets;

b) the interest rate on such new securities should be at the market rate determined by the average rate prevailing in the twenty preceding trading days on outstanding long-term debt, issued by or guaranteed by the province, denominated in Canadian dollars; or struck by reference to

   (i) the average of interest rates on all outstanding debt issued or guaranteed by participating provinces, weighted according to CPP contributions in the year of calculation, or

   (ii) the average interest rate on outstanding debt issued or guaranteed by the province concerned, with the treasurer of the province having the right to elect between (i) and (ii);

c) all funds declined by the provinces in any month should be invested in 90-day treasury bills of the province concerned, or of the federal government if no provincial bills are available, until such time as the province takes up the funds against the securities of a provincial Crown corporation as stipulated in a).

BENEFIT FEATURES

Many of the briefs to the Commission urged changes in the existing benefit structure of the CPP. Some advocated improvements such as an increase in the percentage rate for survivor benefits; others sought alteration of the basic framework of the plan, such as a change from an earnings-related plan to one which would include unpaid workers such as housewives.

Except for the recommended adoption of the child-rearing dropout provision, the Commission does not favour major changes in the benefit structure of the plan. It therefore makes the following recommendations:

Recommendation 31. The Government of Ontario should support the continuation of the CPP on its present compulsory and "earnings-related" basis and resist any extension of coverage to unpaid workers.

Recommendation 32. The Government of Ontario should approve the amendment of the CPP for the child-rearing dropout provision as now legislated, to take effect without delay.

Recommendation 33. Benefits payable to the survivor of a deceased contributor in receipt of retirement benefits should continue to be approximately 60 per cent of the pension benefit of the deceased contributor, and the Government of Ontario should resist any extension of the existing survivor benefits.

Recommendation 34. The Government of Ontario should take no steps to extend the principle of credit-splitting upon dissolution of marriage to create a division of credits during marriage.

Recommendation 35. The Government of Ontario should resist any steps to increase the existing levels of retirement benefits and survivor benefits under the CPP, or to alter the existing goal of 25 per cent of the Average Industrial Wage for those at the YMPE, and such benefits should continue to be financed by equal contributions by employer and employee. (See Recommendation 40 for a mandatory retirement savings plan).

Recommendation 36. The earliest age of eligibility for CPP retirement benefits should continue to be age 65, with any future change to be only in concert with all government retirement income programs.

Recommendation 37. The Government of Ontario should consider amendments to the CPP to provide a more effective, less complicated, and less time-consuming procedure for appeals as to both contributions and benefits under the CPP.

Recommendation 38. All CPP benefits should continue to be based on earnings indexed to the Average Industrial Wage and, after payment commences, should be indexed as at present to the Consumer Price Index.

Recommendation 39. No earnings test for retirement benefits should be reinstated in the CPP while age for eligibility for retirement benefits remains at 65.

Part III

Employment Pension Plans

(Volumes II and III)

THE NATURE OF EMPLOYMENT PENSION PLANS

As defined by the Commission, an employment pension plan is one financed by an employer or group of employers for the purposes of providing retirement income for employees. Our definition expressly includes plans operated by government as employer, but excludes the CPP and other "government programs." The Commission's discussion of employment pension plans deals with plans for employees in both the private and the public sector and the recommendations apply equally to both. In addition there are other recommendations which apply to the public sector alone. The latter are found in Part IV of this summary entitled Ontario Public Sector Employment Pension Plans.

An employment pension plan may be initiated and controlled exclusively by the employer, or may be the result of collective bargaining and involve a union in some or all aspects of administration. It may be a multi-employer plan, as are many in the construction industry; the same term may be applied to the Ontario Municipal Employees Retirement System (OMERS).

Employment pension plans are essentially voluntary in the sense that they are not imposed by law, except for certain statutory plans in the public sector. Generally, the size and type of the pension "promise" is a matter for the discretion of the parties directly concerned. Similarly, a plan sponsor may discontinue the pension plan. The employer's financial obligation, unless extended in some manner by legislation, is limited to those contributions that are required up to the time the plan is terminated.

Government regulation - since 1965 in Ontario - has been directed towards several outstanding problem areas in the field of employment

pension plans: principally those of portability, solvency and investment practices. Plans are also subject to certain rules set by the Minister of National Revenue for eligibility of pension plans for tax deductibility; one such rule is that a plan must be accepted for registration by the applicable provincial supervisory authority (or federal, depending on the jurisdiction).

If employment pensions are to continue playing a significant role in a retirement income system, it is important that they be encouraged and, where necessary, forced to serve their members effectively and fairly - and above all, to develop in such a way that the promises made today can be kept tomorrow. Many of the problems identified by the Commission, as will be seen, lend themselves to treatment within the general framework of the Pension Benefits Act. However, in order to be regulated under that act, a plan must first exist. Accordingly, it was the Commission's decision to start with an examination of the coverage problem - one which is clearly of greatest significance for nearly half of the Ontario work-force. Our recommendations on this matter are followed by those relating to employment pensions as they exist today and as they may be expected to perform their important role in the future.

COVERAGE - THE MANDATORY RETIREMENT SAVINGS PLAN

In order to evaluate the effectiveness of existing employment pension plans the Commission examined to what extent workers are covered by such arrangements, and found:

(i) 50.4 per cent of the work-force in Ontario are members of employment pension plans. Excluding public sector plans where coverage is 95 per cent, about 50 per cent of men and 22 per cent of women working in the private sector are covered by an employment pension. Such coverage is not likely to increase in the foreseeable future in the absence of government compulsion.

(ii) A million and a half paid workers of the work-force in Ontario are neither members of an employment pension plan nor holders of a Registered Retirement Savings Plan. Without such coverage, replacement of at least a measure of income in retirement above the minimum levels of the government programs and the Canada Pension Plan is not possible for most Ontario workers.

The Commission therefore makes the following recommendation:

Recommendation 40. The Government of Ontario should institute by legislation a mandatory retirement savings plan for all workers in Ontario aged 18 to 64 with the following features:

a) The Provincial Universal Retirement System (PURS) to be based on an individual account (money-purchase) design.

b) All contributions to be immediately vested and locked-in, with a refund of employee contributions to be available to those below the Year's Basic Exemption.

c) All monies accruing in individual benefits accounts to be completely portable.

Contributions

d) Contributions by employer and employee to be based on earnings up to the Average Industrial Wage (with YMPE and YBE the same as those of the CPP from year to year). Self-employed persons to contribute at the combined employer-employee rate.

e) Levels of contribution to be determined by the government, based on the percentage of AIW it desires to be replaced when the plan is mature, e.g., 15 to 25 per cent. Contributions to be divided equally between employer and employee except that employee contributions will be graduated. The lowest contributions will be made by employees between ages 18 to 30, higher contributions age 30 to 45, and full contributions age 45 to 65, but employer percentages will be the same for those aged 18 to 64. For example, employee contributions: age 18 to 30, 1 per cent of pay to the YMPE ceiling; 30 to 45, 1-1/2 per cent; 45 to 65, 2 per cent; employer, 2 per cent throughout; to provide about 20 per cent replacement, based on the Commission's most probable assumptions.

Benefits

f) The benefit, payable any time between age 65 and 71, to be in the form of a range of annuity options such as escalating and participating annuities; but where the employee at retirement has a spouse, the primary benefit must be a life annuity for the employee with at least a 60 per cent survivor benefit for the spouse, unless the spouse waives such benefit in writing.

g) If the employee dies before withdrawing funds, the estate to succeed to the funds subject to survivor benefits as recommended. (See Recommendation 53).

h) Annuities for male and female employees to be costed in such a fashion that equal monthly benefits will be provided for the same capital accumulation for males and females. (See Recommendation 105).

Deposit Vehicle

i) The employee to have a choice of financial intermediary for the investment of his or her contributions and those of the employer. Financial intermediaries to be those now eligible for Registered Retirement Savings Plans and a central pension agency to be set up by the Government of Ontario. (See Recommendation 52).

Investments

j) Funds to be invested in the same kinds of investment now permitted for pension funds in Ontario except that foreign investments would be excluded.

Administration

k) Contributions to be made by payroll deduction and remitted together with employer contributions through Revenue Canada (Taxation) in a fashion similar to CPP contributions, or to the Ontario central pension agency, and thence to the designated financial intermediaries.

Income Tax Deductibility

l) Contributions of employee, employer, and self-employed to be deductible for income tax purposes.

Opting-out of PURS

m) Employers may be allowed to opt out of PURS in strictly defined circumstances. (See Recommendation 107).

PORTABILITY AND VESTING

The Commission examined the effectiveness of pension plan membership by ascertaining the amount of retirement income participants are likely to receive. The Commission found:

(i) As plans are presently designed, to obtain full pension credits an employee must work for one employer for his or her entire worklife and the worklife must usually be an unbroken period of at least 35 years.

(ii) Job mobility decreases the likelihood of obtaining a pension because an employee may not satisfy the vesting requirements, that is, the rules governing the entitlement to a pension. Furthermore, vested pension benefits are not truly "portable."

(iii) Earlier vesting rules provide a partial answer to the problem inherent in the lack of pensions arising from job

mobility. Reciprocal transfer agreements and multi-employer pension plans provide limited portability for some employees.

The minimum vesting rule should be changed from the present rule of age 45 and 10 years of continuous service or plan membership. In order to achieve a reasonable balance between the needs of younger and older workers, the Commission favours a vesting rule based on service alone. The extent of the move towards immediate vesting is limited by the cost. The Commission believes that a decision on the degree of earlier vesting should take into consideration whether a mandatory plan will be instituted. The Commission therefore makes the following recommendations:

Recommendation 41. If the Government of Ontario enacts legislation for a Provincial Universal Retirement Savings Plan, the Pension Benefits Act should be amended to provide that the minimum vesting in all employment pension plans be upon completion of ten years' continuous service with an employer or ten years' membership in the pension plan, and that there be no age requirement.

Recommendation 42. If a mandatory retirement savings plan is not adopted, the Pension Benefits Act should be amended to provide that the minimum vesting in all employment pension plans be upon completion of five years' continuous service with an employer or five years' membership in the pension plan, and that there be no age requirement.

LOCKING-IN AND RIGHTS ON TERMINATION

Improved vesting, with or without a mandatory plan, will not solve the following problems which arise at termination of employment:

(i) In contributory employment pension plans, locking-in simultaneously with vesting creates disadvantages for terminating employees at young ages who may be purchasing the whole of the deferred life annuity with their own contributions. It is difficult for the employee to ascertain how much employer money, if any, is involved in providing the vested pension.

(ii) In all plans, there is no increase after termination in the value of the vested benefit, and the value of the life annuity will decline in real terms between termination and retirement.

(iii) Refunds for employees who terminate without vesting may include no interest or interest at low rates.

Whether or not a mandatory plan is adopted, rights on termination as set out in the following recommendations should be provided as minimum standards in the Pension Benefits Act:

> Recommendation 43. Upon termination prior to vesting an employee should be entitled to a refund of his or her own contributions with interest calculated at one per cent below the annualized rate paid by Canadian chartered banks on non-chequing accounts, compounded annually.

> Recommendation 44. Upon termination after vesting in a contributory defined benefit plan, the benefit accrued should be valued under the direction of the Pension Commission of Ontario to ascertain the cost of the benefit. Such cost should then be allocated one-half to the employee and one-half to the employer. The employee's accumulated contributions with interest calculated at one per cent below the annualized rate paid by Canadian chartered banks on non-chequing accounts, compounded annually, should be applied against one-half the cost, and any excess should be refunded to the employee. The balance of cost should be borne by the employer for the provision of a deferred life annuity at normal retirement age under the plan.

In the case of non-contributory plans, rights on termination would remain unchanged.

> Recommendation 45. The Pension Benefits Act should be amended to provide that upon termination an employee in a contributory plan, whether defined benefit or defined contribution, should have the right to elect to transfer the cost of one-half the locked-in pension benefit out of the employer's pension fund
>
> a) to his or her PURS account (if PURS is established);
>
> b) to a special locked-in vehicle similar to an RRSP, in his or her name; (see Recommendation 50)
>
> c) to his or her new employer's pension plan, provided that the new employer agrees to accept the transfer and also to hold the monies locked-in subject to transfers arising on any subsequent termination of employment.

In the case of non-contributory plans there would be no similar right to transfer.

> Recommendation 46. If the recommended rights on termination are adopted, there should be no government compulsion requiring the improvement of deferred benefits between termination and normal retirement under the plan.

Recommendation 47. Locking-in of employees' contributions in employment pension plans, subject to amended rights on termination as recommended, should continue to be simultaneous with vesting as legislated.

Recommendation 48. The Pension Benefits Act should be amended to remove the 25 per cent commutation privilege on termination.

Recommendation 49. Cash commutation of a deferred life annuity should be permitted where the monthly amount payable at normal retirement age is $25 or less, or such amount as may be determined from time to time by the Pension Commission of Ontario.

Recommendation 50. The Government of Ontario should make arrangements with Revenue Canada for the creation of a special locked-in vehicle similar in all respects to existing RRSPs except that no monies may be withdrawn other than for the purchase of an annuity or the operation of a Registered Retirement Income Fund. Section 16(1) of the Regulation under the Pension Benefits Act should then be repealed.

Recommendation 51. The Government of Ontario should amend the Pension Benefits Act to provide that upon transfer of the value of accrued pension benefits at the request of the employee to the special locked-in vehicle recommended, the employer shall have no further obligation under the pension plan to the employee for such accrued benefits.

CENTRAL PENSION AGENCY

In the Commission's opinion a central pension agency is necessary for the operation of a mandatory plan. Once established for this purpose, such an agency could carry out other useful functions such as those outlined in the following recommendation:

Recommendation 52. A central pension agency should be created by the Government of Ontario to fulfil the following functions:

a) to be an alternative investment medium to receive, hold, and invest monies as required for the recommended mandatory retirement savings plan (PURS);

b) to receive, hold, and invest pension monies arising from the exercise of recommended transfer rights on termination of employment;

c) to record future pension rights under employment pension plans for all terminated employees, to receive such data from employers, and to provide such data to plan members;

d) to co-operate with other jurisdictions in establishing a system to provide information on pension rights on a national basis.

SURVIVOR BENEFITS

The Commission favours an approach which would end discrimination on the basis of marital status in pension plans. The Commission endorses the attitude that over time there should be a move away from the assumption of need arising out of marital or quasi-marital status, and towards adoption of entitlement as the rationale. For the present, however, the Commission believes that the survivor benefits set out in the following recommendations should be required in all employment pension plans.

Death Before Retirement

Recommendation 53

a) Where an employee dies before retirement and before being vested, the estate should be entitled to a refund of his or her contributions with interest calculated at one per cent below the annualized rate paid by chartered banks in Canada on non-chequing accounts and compounded annually.

b) Where an employee dies before retirement, but after becoming eligible to receive a retirement pension either by attaining normal retirement age or by fulfilling the requirements for early retirement as provided in the plan, the spouse of any age should receive as a pension 60 per cent of the pension to which the employee would have been entitled had he or she actually retired under the plan.

c) Where an employee dies before retirement and after being vested but before becoming eligible to receive the pension, and leaves a spouse surviving, the spouse should receive as a pension 60 per cent of the pension to which the employee would have been entitled on retirement, payable when the older of the employee or the spouse would have attained or attains the age of 65 or the normal retirement age under the plan, whichever is earliest.

d) Where an employee dies before retirement and after being vested but before becoming eligible to receive the pension, and does not leave a spouse, or the spouse dies before receiving the pension provided in (c) above, the estate of the employee, or where the spouse dies after being entitled but before receiving the pension, the spouse's estate, shall receive the contributions of the employee with interest, or where applicable, the amount which would have been required at the employee's death to purchase the spouse's

pension by way of an insurance company annuity, whichever shall be the greater.

These provisions shall apply to both contributory and non-contributory pension plans.

Death After Retirement

Recommendation 54

a) All plans should provide, as the normal form of pension benefit under the plan, a joint and last survivor annuity with a choice of the percentage level for the survivor benefit of not less than 60 per cent and not more than 100 per cent of the original pension benefit. In the event the percentage level is not designated by the employee the percentage should be 60 per cent. The plan may provide for an actuarial reduction so that the cost of the retirement benefit to a person without a spouse and a person with a spouse is the same. The normal form should be taken under the plan unless another form of benefit available under the plan is elected by written consent of both the employee and the spouse.

b) Where an employee dies after the pension is in payment and without leaving a spouse, no benefit should be paid to the estate of the deceased employee unless the plan so provides.

INTEGRATION

While approving the principle of integration of some government program benefits with employment plan benefits, the Commission is concerned that employees receive the benefits which they have in fact paid for. The Commission therefore makes the following recommendations:

Recommendation 55. The Pension Benefits Act should be amended to provide:

a) prohibition for existing plans of reduction in benefits by reference to any increase in the level of Old Age Security payments, whether or not for increases related to the Consumer Price Index, above the levels set at the end of December 1979;

b) prohibition for new plans of reduction in employment pension plan benefits by reference to any benefit from Old Age Security;

c) prohibition of non-proportional methods of benefit offset integration for all new plans, and for all pensions from existing plans commencing on or after the date of coming into force of such amendment;

d) prohibition of integration by any method for all legislative amendments to the CPP coming into effect after January 1, 1980, resulting in a direct increase in benefit levels or increased employee contribution rates, if integration would have the effect of reducing the pension benefit to less than the value of the employee's benefits accrued in the employment pension plan to the date of such amendment, or than the value of the employee's contributions, whichever is greater;

e) prohibition of integration by any method for all increases in CPP benefit levels resulting from an increased YMPE after the year in which the YMPE equals or exceeds the Average Industrial Wage, if it would have the effect of reducing the pension benefits accrued in the employment pension plan to that date to less than the employee's benefits accrued to that date or than the value of the employee's contributions, whichever is greater.

Recommendation 56. Integration of employment pension plans with the mandatory plan recommended by the Commission should be permitted, provided that pension benefits accrued to the commencement of the mandatory plan should not be reduced by any payment from the mandatory plan.

Recommendation 57. For all plans, steps should be taken after an appropriate study by the Pension Commission of Ontario to ensure that any pension integration formula is consistent with the principle that the accrued rights of each employee be preserved, and that its operation is adequately explained to all plan members.

FUNDING

The Commission examined the financial soundness of pension plans in Ontario and found in general that pension plans had been setting aside sufficient funds to pay for pension promises. However, because problems exist in the funding structure of defined benefit plans, it is difficult to rely solely on experience to date in assessing the financial soundness of pension plans. Existing problems include:

(i) the flexibility available to the actuary, leading to a confusion of actuarial methods and assumptions and the virtual inability of a non-actuary to assess pension plan valuations with any precision;

(ii) wide differences in the amount of money accumulating, as a result of different actuarial methods;

(iii) the unlikelihood that sufficient improvement will come from within the actuarial profession;

(iv) insufficient funding in the event of a wind-up, particularly in flat benefit plans, as a result of the periods permitted for amortization of the cost of benefit improvements.

The goal of funding should be to provide sufficient pension funds to purchase or provide all pensions to retired employees, deferred pensions to all who have met the vesting qualifications, and the accrued pensions of active employees. Since a defined contribution plan is always fully funded, the funding problem is confined to defined benefit plans. Short of abolishing the defined benefit design to avoid funding complexities, there must be changes toward better control and more security.

The wide discretion left to the actuarial profession in the choice of assumptions and methods can produce widely divergent results, affecting the size of employers' contributions for current service and of the special payments toward unfunded actuarial liabilities. The degree of funding has important effects for plans which are wound-up before all liabilities have been paid.

The administration of employment pension plans under the Pension Benefits Act should therefore have as one of its dominant goals the financial protection of benefits promised to plan members. The degree of protection should be increased if the Commission's proposed mandatory plan is not adopted and if membership in a contributory pension plan is not made voluntary.

The Commission makes the following recommendations for the achievement of increased financial protection of plan members:

Actuarial Funding Methods and Assumptions

Recommendation 58. The Pension Benefits Act or its regulations should be amended to limit the choice of actuarial funding methods (as defined in Volume II, Chapter 9) to the following:

Accrued Benefit-unprojected
Accrued Benefit-projected
Level Premium-constant dollar
Level Premium-constant per cent of salary, entry age normal
Level Premium-constant per cent of salary, attained age normal.

The Aggregate Funding method and all other methods except the foregoing should be prohibited immediately for all new plans and be phased out within a reasonable time for existing plans.

Recommendation 59. The Pension Commission of Ontario should designate the plan types for which each of the permitted funding methods is appropriate.

Recommendation 60. The Pension Commission of Ontario should establish without delay, guidelines for the choice of actuarial assumptions by the actuary for a pension plan, directed to:

a) the appropriateness of the choice of actuarial assumptions and their internal consistency;

b) the incorporation of actual plan experience, where suitable, into the construction of tables for mortality and turnover rates;

c) the identification of the inflation rate and other elements making up the salary scale and interest rate assumptions and requiring internal consistency.

Actuarial Valuations

Recommendation 61. The Pension Benefits Act or its regulations should be amended to require actuarial reporting in compliance with guidelines set by the Pension Commission of Ontario. Such guidelines should take precedence over the standard now enunciated in Section 4b(1) of the regulations which requires actuarial reports to use assumptions and methods as determined by the actuarial profession.

Recommendation 62. The Pension Benefits Act or regulations or guidelines should be amended to permit the use of capitalized values for valuing fixed income securities only when the following conditions apply:

a) the securities are of high quality and low risk;

b) those securities held in the fund bearing interest at a rate below the actuarial assumed rate be written down in the same manner as those written up;

c) liquidity requirements of the fund permit the holding of such securities to maturity.

Recommendation 63. The Canadian Institute of Actuaries should be asked to undertake, in collaboration with the Canadian Institute of Chartered Accountants, the early development of a standard form of Actuarial Valuation Balance Sheet which will provide more meaningful information as to the funded status of the pension plan for disclosure to employees.

Recommendation 64. The Pension Benefits Act or regulations should be amended to require the filing of the Actuarial Valuation Balance Sheet in compliance with such standard form for disclosure purposes, or if such standard form is not established by the Canadian Institute of Actuaries within a reasonable

time, in compliance with such form or requirements as may be set by the Pension Commission of Ontario from time to time by regulations.

Recommendation 65. The Pension Benefits Act or regulations should be amended to require that all actuarial valuations (except for certain plans in the public sector) be filed on a triennial basis within six months of the fiscal year end of the plan rather than the present 12 months, and that, if necessary for enforcement, suitable penalties for default be introduced.

Recommendation 66. The Pension Benefits Act or regulations should be amended to require that all pension plans in the public sector, including the Hospitals of Ontario Pension Plan, having assets of $150 million or more, file an actuarial valuation annually with the Pension Commission of Ontario within nine months of the fiscal year end of the plan.

Recommendation 67. The Government of Ontario should take immediate steps to place all public sector pension plans other than those having assets of $150 million or more on the same fiscal year end, and to co-ordinate the filing of actuarial valuations so that those plans reporting triennially will all report for the same period.

Solvency Requirements

Recommendation 68. The existing maximum amortization periods now available under the Pension Benefits Act, of 15 years for initial unfunded liabilities and 5 years for experience deficiencies, should remain unchanged.

Recommendation 69. All additional liabilities created in any pension plan by the legislative amendments arising out of the recommendations (e.g., earlier vesting), subject to the approval of the Pension Commission of Ontario as to the amount of such additional liabilities, should be amortized over not more than 15 years and treated in the same manner as initial unfunded liabilities under the act.

Recommendation 70. The "test valuation" permitted under Regulation 4a. of the Pension Benefits Act, allowing the treatment of certain experience deficiencies as initial unfunded liabilities for the purpose of determining the amortization period for the liability, should be phased out by prohibiting its use for actuarial valuations for periods ending after the 30th day of June 1982. Any experience deficiencies deemed to be initial unfunded actuarial liabilities under the test valuation in the past or the future up to June 30, 1982 valuations should be liquidated in accordance with the current rule, i.e., by an immediate lump-sum payment or by equal

annual payments over not more than 15 years from the valuation date as of which they were discovered, and all other experience deficiencies should be liquidated by an immediate lump-sum payment or by equal annual payments over not more than 5 years from the valuation date as of which they were discovered.

Recommendation 71. For plans using a flat benefit design, and such other plans as the Pension Commission of Ontario may designate from time to time, there should be such conditions for plan improvements resulting in initial unfunded liabilities, as may be determined by regulation made under the Pension Benefits Act, in order to ensure adequate funding under the plan for benefits promised from time to time and with a view to equalizing the rate of funding for all types of defined benefit plans.

Recommendation 72. The provisions of the Pension Benefits Act should apply to all employment pension plans in Ontario, whether in the public sector or the private sector. (For particulars of the effect of this principle in Ontario public sector employment pension plans, see Recommendations 108 to 111).

Funding of Post-retirement Adjustments

The desire for post-retirement increases in pension payments to counteract the effects of inflation has created an exception to the general principle that the pension promise should be funded. Although sympathetic to the encouragement of such protection through collective bargaining (formal or informal) the Commission does not favour any methods of adjustment which are not properly funded.

Recommendation 73. The Pension Benefits Act or its regulations should be amended to require that all post-retirement adjustments, whether or not linked in some fashion to changes in the Consumer Price Index and which are provided for in the pension plan document or out of any supplementary or other fund created for that purpose, be funded on the same basis as provided in the act for basic benefits under the pension plan. This requirement should be phased in, effective for existing plans requiring actuarial evaluation from and after June 30, 1982, and should apply immediately to new plans. Any unfunded actuarial liabilities created by this change should be treated as initial unfunded liabilities and be amortized over not more than 15 years, with annual payments to be not less than the annual payout in respect of such adjustments.

The same principle applies to inflation adjustment of public sector plans (see Recommendations 116-120).

PLAN WIND-UP

A basic feature of existing employment pension plans is that they are established voluntarily and may be wound up voluntarily at any time by the plan sponsor. At wind-up the employer is responsible for paying into the pension fund only outstanding current service costs and special payments which may be due at the date of the wind-up regardless of the fact that some benefits that were promised may not then have been paid for. The Pension Benefits Act protects only accrued benefits to the extent they are funded at the date of wind-up.

The Commission found that, since the Pension Benefits Act came into force in 1965, plan wind-ups generally had been accomplished without loss of basic benefits. The Pension Commission of Ontario reported that among trusteed plans there had been only one plan termination in a recent eight-year period in which basic accrued benefits had not been fully covered by the available assets. (Comparable data for insured plans were not available). A distinction must be drawn, however, between "basic" benefits and those which, while subject to funding requirements, may not be given the same degree of priority if the assets are insufficient to provide all accrued benefits. In this lower-priority category are such features as bridging supplements, early retirement privileges, and post-retirement pension increases.

The Commission found that benefits are promised by the employer and accepted by employees on the basis of the continuation in business of the employer. Funding is permitted under the act on this ongoing basis. However when the plan does not in fact continue, either because the employer voluntarily winds up the plan or becomes insolvent, the funding in most cases will not cover the cost of accrued benefits that were being amortized over future years.

In the Commission's opinion part of the problem arises from a lack of understanding of plan members of the limitation of funding for promised benefits. The situation is most commonly found in flat benefit plans, especially in unionized industry, which are updated when the collective bargaining agreement expires, often at three-year intervals. It is also found in career average plans whose past service formula is updated from time to time; or where any plan is upgraded in a significant way, by improving the benefit formula, permitting early retirement with unreduced pensions, adding bridging supplements, or providing inflation adjustments for pensioners. Improved benefits may be funded by special payments over as long as fifteen years. If the plan is wound up before all special payments have been made, benefits may have to be cut back to those actually paid for at the date of the wind-up. From evidence received by the Commission it appears that plan members have not been made aware of the possibility of cut-backs nor the distinction between basic benefits protected under the act and other benefits. (See the case of "Clifford" in Your Income in Retirement - Volume IV of the report).

To alleviate this situation and to encourage change by negotiation between plan sponsors and members, the Commission makes the following recommendations:

> Recommendation 74. The Pension Benefits Act should be amended to provide that meaningful disclosure be made to all members of a pension plan individually, advising that in the event of a plan termination, whether voluntary or not, those benefits which have been promised but which are funded by payments into the future will only be paid to the extent they have been paid for at the date of plan termination. Such disclosure should be made at each plan change which affects benefits.

Plant closures which occurred as the Commission was completing its report, have involved loss of early retirement privileges and have again brought pressure for some form of plan termination insurance similar to that under ERISA in the United States which provides for plan termination insurance secured by a compensation fund and a lien against the employer's assets. The Commission considered these possibilities but has rejected them for a number of important reasons:

(i) plan termination insurance in the ERISA form covers only basic benefits within well-defined limits; it would not protect other benefits. The limitation is a matter of cost;

(ii) plan termination insurance financed by a general levy per plan member penalizes the well-funded plan to the advantage of the poorly-funded plan;

(iii) a guarantee by government is applicable to only one segment of the population, those fortunate enough to have an employment pension plan. Government funds should be used for the whole population seeking security of retirement income.

The Commission therefore makes the following recommendation:

> Recommendation 75. No steps should be taken at this time to institute plan termination insurance or other third party guaranty of benefits promised under an employment pension plan.

The Commission does endorse a new principle for employment pension plans which will afford some preservation of early retirement privileges in the event of plan wind-up. Retirees or those eligible for early retirement will have a fully funded status for all basic benefits to which the plan member is entitled at the time of retirement (normal or early). Thus the plan member who has fulfilled all the conditions for the promised basic pension will be protected against any cut-back of that pension. (See Volume II, Chapter 9).

Where a pension plan is wound-up, whether or not voluntarily, pension plan assets are allocated among the various claims. At present, no clear ranking or priorities for claims are set out in the Pension Benefits Act or its regulations. The Commission advocates a clear statement of these priorities, and endorses the principle that the basic benefits promised at time of retirement to those who have fulfilled the conditions for retirement under the plan should be provided for without reduction whether or not funded and before any other allocation is made. Beyond the incorporation of this principle in the Pension Benefits Act, priorities may be determined under the terms of the plan; but the regulations should set out priorities to be applied where a plan is silent on that subject.

The Commission therefore makes the following recommendations:

Recommendation 76. The Pension Benefits Act should be amended to require that, upon wind-up of an employment pension plan, those persons who have met the conditions for normal retirement or who have taken or are eligible for early retirement under the plan at least six months before the date of wind-up, or who are in receipt of a permanent disability pension under the plan, shall receive first priority for all basic pension benefits payable to them at the date of such retirement, whether or not these have been fully funded, to the extent of the assets of the plan. If the assets of the plan are not sufficient, these persons shall share rateably in the available assets. All other benefits, including any post-retirement benefit improvements, shall be payable only to the extent funded and shall be subject to the terms of the pension plan and the requirements of the Pension Benefits Act as they apply to all plan members.

Recommendation 77. Except for the special protection to be provided under Recommendation 76, priorities among members on pension plan wind-up should be determined by the provisions of the pension plan, and where the pension plan does not so provide, then by the requirements of the Pension Benefits Act, which should be amended to state clearly the following classes of priority, each member of the class to receive the entitlements stipulated before any allocation to the next following class, the members of classes to share rateably:

a) statutory deferred life annuitants, active and terminated: pension benefits to the extent funded;

b) members vested under the plan provisions: pension benefits to the extent funded; non-vested members: benefits to the extent of required contributions;

c) members to the extent of their additional voluntary contributions;

d) members having other pension benefits, to the extent funded.

e) members having any other benefits: e.g., bridging supplements if not pre-funded; escalated adjustments if not pre-funded.

In the event of bankruptcy or insolvency of an employer, pension fund assets do not form part of the bankrupt estate. However it may be that at the time of bankruptcy or insolvency employee contributions have been deducted but not remitted to the pension plan trustee; there may also be liability for unpaid employer contributions to the date of bankruptcy or insolvency. At the present time there is no mechanism to protect these claims. The Commission therefore makes the following recommendations for such a mechanism and other steps which will assist in minimizing the problem.

Recommendation 78. The Pension Benefits Act should be amended to create a statutory lien for monies deemed to be held in trust by employers under Section 23a) of the Act.

Recommendation 79. The Pension Benefits Act should be amended to create a right in the Pension Commission of Ontario to intervene on behalf of plan members where the employer sponsor of the plan has become insolvent, and to enforce the statutory lien to obtain payment into the plan of monies deemed to be held in trust for the benefit of the plan members.

Recommendation 80. To the extent that such steps in amending the Pension Benefits Act by the Government of Ontario are determined to be bankruptcy legislation and therefore beyond the legislative powers of the provinces, the Government of Ontario should take steps to persuade the federal government to create a protected classification under federal bankruptcy legislation to protect,

a) employee contributions which have been deducted and not remitted;

b) employer contributions payable to the date of bankruptcy or insolvency.

Recommendation 81. The Pension Benefits Act or regulations should be amended to require:

a) in the case of money-purchase plans, that employer contributions be due and payable at the same time now provided for employee contributions;

b) in the case of defined benefit plans, that employer contributions be due and payable in four equal instalments to be made within 30 days of the end of each quarter of the plan year.

INVESTMENT

The Commission examined the existing regulation of investment of pension plan assets under the Pension Benefits Act and found it broad enough to allow a range of investment choices and restrictive enough to protect against large losses. It does not therefore make any recommendation for change in the regulation. It is concerned, however, that there may be no effective means of enforcing the rights of members where the assets of a plan are not held in Canada. It therefore makes the following recommendation:

> Recommendation 82. The Pension Commission of Ontario should assess the extent of the potential problems arising from the absence of regulation of the situs of pension plan assets, and, if found necessary, make recommendations for amendment to the act or regulation.

DISCLOSURE

Disclosure, in the Commission's opinion, is one of the keys to improved pension planning and operation. Employees as beneficiaries of a pension plan are entitled to have access to information which touches on the financial viability and security of the plan. The Commission makes the following recommendations relating to information to plan members, and audit requirements for the verification of financial information and security.

> Recommendation 83. The Pension Benefits Act and its regulations should be amended to provide disclosure of information, based on the principle that no information about an employment pension plan or its operation which is necessary for individual assessment is to be unreasonably withheld from any member of the plan, active, retired or terminated, or his or her beneficiary, or from any employee who is eligible to join the plan.
>
> 1. The following information should be routinely disclosed:
>
>   a) Annually to each member of the plan: individual member contribution (if any) and benefit data; copy of the employer's pension fund statements for the current year; name and address of the plan administrator and each financial carrier; and specific directions for obtaining additional information.
>
>   b) To each member on termination of employment or membership: a detailed statement of his or her benefit entitlement, including the method of calculation; in the case of a defined benefit plan (if the Commission's recommendations concerning rights on termination are adopted), a statement of employee and employer cost and excess contributions

(if any); a concise explanation of all benefit options available to the individual and/or any surviving beneficiary; a summary of fund investments and current rates of return; specific directions for applying for benefits and options; and the name and address of each payor of the person's benefits.

c) In defined benefit plans, a statement warning that, in the event of a wind-up of the plan, specific plan improvements which have not yet been paid for may be cut back to the extent they have not been funded.

d) In multi-employer plans, a statement that promised benefits can only be paid to the extent the contributions fund the benefits.

2. The following information should be available on written request:

a) To any plan member or authorized representative: a copy of the most recent plan information return (Form 2) filed with the Pension Commission of Ontario; a list of all fund investments showing both book value and market value at the end of the last plan year, together with a statement of the time-weighted rate of return on the fund; a copy of the most recent actuarial valuation report and cost certificate filed with the commission; and a copy of the latest available audit report.

b) To any plan member or authorized representative: copies of, or a reasonable opportunity to inspect and make extracts from, documents not otherwise provided to members, such as a trust agreement, a contract of insurance or investment management, by-law, collective agreement or other documents under which a plan is constituted.

3. The following right of inspection should be available: to any plan member, or his or her agent authorized in writing, the right to inspect at the offices of the Pension Commission of Ontario the plan document or documents and any other document or report concerning the operation of the pension plan filed with the pension commission and to which the disclosure requirements apply.

AUDIT

The Commission makes the following recommendations:

Recommendation 84. The Pension Benefits Act and its regulations should be amended to require audit of both the pension plan and the pension fund with an

audit report certified by a chartered accountant, to be filed with the Pension Commission of Ontario as follows:

for multi-employer plans, an audit report on the pension plan shall be filed annually;

for all other employment pension plans, an audit report on the pension plan shall be filed at least every three years and coincide with the period of the triennial actuarial evaluation;

for all employment pension plans, except where assets are held by an insurance company or trust company and a certificate as to the existence of assets is given by the auditors of such company, an audit report on the pension fund shall be filed annually.

Recommendation 85. The Pension Benefits Act and its regulations should be amended to give the Pension Commission of Ontario specific authority to require audits of both plan and fund more frequently and to order an independent audit of the plan and the fund if in the opinion of the Commission such audit is warranted for the protection of plan members.

THE PENSION COMMISSION OF ONTARIO

The Commission found that the Pension Commission of Ontario has performed effectively in administering the Pension Benefits Act since its inception in 1965. The emphasis has been on the protection of statutory vested rights of plan members and the regulation of solvency and investment of pension plans. Developments in the pension field since 1965 have made it necessary, in the opinion of this Commission, to recommend an expanded role for the pension commission, with more stress on information to employees and the protection of individual rights. Coupled with this are the new duties for the pension commission flowing from the Commission's other recommendations for improved transfer rights, stronger regulation of funding, and adoption of a mandatory plan. We also see the need to assign to the Pension Commission of Ontario the explicit task of proposing legislative amendments to implement the recommendations of this Commission; and the related need for periodic reviews of the act and regulations, with appropriate reports to the Minister and the Legislature. The Commission therefore makes the following recommendations:

Recommendation 86. The Pension Benefits Act should be amended to expand the role of the Pension Commission of Ontario from a regulatory body alone to a body designed to inform and assist individuals in enforcing their rights to pension benefits in employment pension plans, and for that purpose the commission should be given power:

a) to intervene with the employer on behalf of a plan member or class of plan members, including active, retired, or terminated members and their beneficiaries, and to take legal proceedings on behalf of such individual or class in the event of the bankruptcy or insolvency of the plan sponsor which adversely affects the pension plan for events prior to the date of such bankruptcy or insolvency;

b) to arbitrate disputes between an employer and an individual employee or class of employees as to entitlements under a pension plan.

Review of Legislation

Recommendation 87. The Pension Commission of Ontario should be requested to undertake a review of the Pension Benefits Act and report to the Minister with proposals for amendment of both the Act and the regulations, including those changes recommended by this Commission.

Recommendation 88. The Pension Benefits Act should be amended to require the Pension Commission of Ontario to make a periodic review of the act and regulations and submit its report on recommended amendments to the Minister at least every five years, with the further requirement that its report be tabled in the Legislature.

Administration: Financing and Staffing

Recommendation 89. The necessary monies should be allocated to permit the Pension Commission of Ontario to carry out effectively its additional obligations contemplated by the recommendations for an expanded role for the commission.

See also Recommendations 44, 49, 57, 59, 60, 61, 64, 69, 71, 79, 82, 85, 92, 93, 95, 96, 103, 107, 115, 139 and 146 which affect the role of the Pension Commission of Ontario.

FURTHER PENSION BENEFITS ACT AMENDMENTS

Multi-Employer Plans

Recommendation 90. The Pension Benefits Act should be amended to bring within the ambit of the act by separate definition: multi-employer plans, union-sponsored pension plans and any type of employee-pay-all plan which provides a pension benefit.

Recommendation 91. The Pension Benefits Act should be amended to place upon the board of trustees of a multi-employer plan the responsibilities normally placed on the employer in a single employer plan,

where these responsibilities are not properly attributable to participating employers.

Recommendation 92. The Pension Commission of Ontario should take steps to ensure that service requirements for entitlements under multi-employer plans are not linked to plan membership in such a way as to deprive an individual of service-based benefits.

Representation of Plan Members

Recommendation 93. The Pension Benefits Act should be amended to require, for contributory pension plans, representation of the active members of the plan on the body directing the affairs of the pension plan, by the election of not less than one plan member to such body with full rights as a member of the board or committee. Election of such member shall be required under a provision of the plan in a manner acceptable to the Pension Commission of Ontario.

Obligations of Trustees

Recommendation 94. The Pension Benefits Act should be amended to state clearly the distinction between the person responsible for the operation of the plan and the person responsible for the operation of the fund, and in the latter case, the extent of the obligation of that person for investment management of the fund.

Garnishment of Pension Benefits

Recommendation 95. The principle that pension benefits are not assignable or subject to seizure should continue without further exceptions.

Effective Date of Proposed Legislation

Recommendation 96. Legislation implementing recommended changes should be effective at a time not later than three years after the legislation has received Royal assent.

All additional liabilities created by the recommended legislative amendments should be treated as initial unfunded liabilities (as noted in Recommendation 69) and therefore subject to amortization over a period of up to 15 years.

RELATIONSHIP WITH MANDATORY PLAN

If the Government of Ontario legislates a mandatory money-purchase plan (PURS) for all workers in Ontario, existing employment pension

plans will assume a different role in the provision of retirement income. It is expected that they would be continued, perhaps with changes in their benefit design, with the emphasis on providing benefits above 50-60 per cent of the Average Industrial Wage, and supplementary benefits (where cost considerations permit) such as early retirement and cost-of-living adjustments. If employment pensions thereby assume a supplementary role, the Commission is of the opinion that less stringent minimums should be required for these plans than if PURS is not adopted. For this reason the Commission has made the following alternate recommendations in four specific areas depending on whether or not PURS is adopted. All other recommendations for employment pension plans are to apply in either event, Recommendation 97 concerning part-time employees is affected by the adoption of a mandatory plan only with regard to compulsion in joining an employment pension plan.

Eligibility

> Recommendation 97. The Pension Benefits Act should be amended to require the extension of eligibility for an employment pension plan registered under the act to all part-time employees where there is a durable employment relationship between employer and employee, on the same terms and conditions, pro tanto, as are applicable to full-time employees. If PURS is adopted, joining the employer's plan should be made voluntary for part-time employees.
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> Recommendation 98. If PURS is adopted, no employee should be compelled to join a contributory plan as a term or condition of employment.
>
> Recommendation 99. If PURS is adopted, the employer sponsoring an employment pension plan should be permitted to adopt reasonable eligibility rules suitable to the particular requirements of the employer's work-force.
>
> Recommendation 100. If PURS is not adopted, the Pension Benefits Act should be amended to provide for a maximum service requirement of two years for those aged 35 and under, and of one year for those over 35.

Vesting

If PURS is adopted, the minimum vesting rule for employment pension plans should be 10 years' continuous service or membership. If PURS is not adopted, the minimum vesting rule for employment pension plans should be 5 years' continuous service or membership (see Recommendations 41 and 42).

Locking-in

> Recommendation 101. If PURS is adopted and has matured, there should be no locking-in of any part

of an employee's contributions to employment pension plans.

Form of Retirement Benefit

Recommendation 102. If PURS is adopted, steps should be taken by the Government of Ontario (in conjunction with federal taxation authorities as required) to provide greater flexibility in the form of benefit available under registered pension plans beyond the present life annuity.

Recommendation 103. If PURS is not adopted, the pension benefit available under a registered pension plan should continue to be in the form of a life annuity, such annuity to be non-commutable except for minimum amounts as determined by the Pension Commission of Ontario from time to time.

Calculation of Annuities

Life Annuities

Recommendation 104. Because the life annuity in its basic form is not adaptable to the effects of inflation, the Pension Benefits Act should be amended to make available to every plan member on retirement the option of a participating annuity; and in addition, where the annuity is to be obtained from an insurance company, the option of an escalating annuity.

For PURS the same options are recommended; see Recommendation 40(f).

Unisex Tables

Recommendation 105. The proposed mandatory plan should incorporate such provisions as will ensure that annuities under the plan are calculated without regard to the sex of the annuitant on the basis of unisex mortality tables (Unanimous recommendation).

Recommendation 106. The Government of Ontario should take steps to ensure that all annuities purchased for money-purchase pension plans and RRSPs as well as for PURS, if adopted, are calculated without regard to the sex of the annuitant on the basis of unisex mortality tables. (Two Commissioners dissented from this recommendation - see Anti-Discrimination Legislation, in Volume III, Chapter 16).

Opting-out of PURS

Recommendation 107. Opting-out of PURS by employers should be permitted if money-purchase benefits equal to those provided under PURS are included in an employment pension plan, subject to conditions de-

termined from time to time by the Pension Commission of Ontario.

THE DEFINED BENEFIT PLAN

The defined benefit plan is the most common form of employment pension plan; it covers 92.3 per cent of all plan members in Ontario. Criticism of pension arrangements has focused on problems inherent in the defined benefit design. These problems include:

a) Inappropriateness for today's mobile workers, since defined benefit plans are designed primarily to benefit the long-service employee.

b) Defined benefits on a career average formula are visibly outdated by inflation.

c) Younger and short-service employees subsidize the cost of the plan to the benefit of older and longer-service employees through reduction in employer costs.

d) Group funding of defined benefit plans makes it impossible for the individual to know what part of the cost is being paid for by employee contributions.

e) Individual equity is incompatible with the allocation of funds in a defined benefit plan. The insurance features of defined benefit plans do not meet the evident public desire for a program based on the individual account.

f) Funding techniques are difficult for the plan members to understand.

g) On wind-up, all expected benefits may not have been paid for and as a result may be reduced or eliminated.

h) Government income tax incentives should be directed to supporting designs which suit the circumstances or needs of most of the working population.

The Commission does not recommend the outright abolition of the defined benefit plan, but it finds good reason to encourage a move to the defined contribution design. With enactment of a mandatory savings plan, the defined benefit plan may be used to accommodate the special needs of particular groups of workers, e.g., early retirement.

Whether or not the mandatory savings plan is enacted, some of the existing inequities of the defined benefit design should be eliminated or reduced. These are dealt with in the following:

(i) *individual rights on termination of employment (Recommendations 43 to 51);*

(ii) *earlier vesting (Recommendations 41 and 42);*

(iii) *improved funding (Recommendations 58 to 73);*

(iv) *greater disclosure (Recommendations 83 to 85);*

(v) *greater protection on wind-up (Recommendations 74 to 81).*

Part IV

Ontario Public Sector Employment Pension Plans

(Volumes VI and VII)

The Commission's study of Ontario public sector employment pension plans showed:

(i) *There are 127 pension plans covering 455,000 public employees in which the Government of Ontario is concerned, either directly as employer, or indirectly through its Crown corporations, boards, commissions or agents, or through government guarantee. Five of these plans covered 84 per cent of the membership: Public Service Superannuation Fund (PSSF), Teachers' Superannuation Fund (TSF), Ontario Municipal Employees Retirement System (OMERS), Hospitals of Ontario Pension Plan (HOOPP), and the Ontario Hydro plan. Total assets of the five major plans are estimated to be at this time in the order of $9 billion.*

(ii) *The plans are diverse in detailed features, but in general are contributory and defined benefit in design, based on a final average earnings formula.*

(iii) *Most plans have some history of adjustment to inflation, either on a regular basis, through a separate adjustment fund or by ad hoc adjustment.*

(iv) *Overall, public sector employees enjoy better pension benefits than employees in the private sector.*

(v) *Among the important differences in operation of pension funds between the public and private sectors are:*

- *in some public sector plans, no separate fund exists and monies are credited to separate accounts within the province's Consolidated Revenue Fund;*

- *for many plans investment of the fund assets is carried out in the same way as for private sector plans; notable exceptions are the Public Service Superannuation Fund (PSSF), the Teachers' Superannuation Fund (TSF), the Legislative Assembly Retirement Allowances plan (LARA) and the superannuation adjustment funds.*

(vi) There is no one central agency, board or ministry of government with the power to control or co-ordinate pension benefits for public employees, and therefore no effective method of exercising cost control.

(vii) The number of public sector employees and pension costs will increase in the future with the extent of the growth determined by natural population growth and expansion of government services in response to public demand.

GENERAL PRINCIPLES

The Commission's assessment of public sector plans and its recommendations were made on the basis of the following principles:

(i) The public sector plans should be regulated on the same basis as the private sector plans.

(ii) Public sector plans should not lead the private sector plans in benefit provision but should be designed to achieve an overall parity with private sector plans.

(iii) Effective cost control of public sector pensions must be implemented and maintained. The public as taxpayer must be assured that the cost of pensions for public sector employees is fair and does not place an undue burden on the resources of the province.

The Commission's recommendations for employment pension plans apply equally to public and private sector pension plans (see Volumes II and III and Recommendations 40 to 107 for employment pension plans in Part III of this summary).

The Commission, therefore, has made the following recommendations in applying these principles to Ontario public sector pension plans:

Recommendation 108. The Government of Ontario should continue to support the principle that all public sector employment pension plans, being those

directly or indirectly funded by government obligations or guarantees, come within the provisions of the Pension Benefits Act. Except as recommended for the Legislative Assembly Retirement Allowances Account (Recommendation (111), no new exceptions should be made to permit continuance of an initial unfunded liability without provision for special payments to reduce such liability.

Recommendation 109. The Pension Benefits Act should be amended to specifically bind the Crown in the right of Ontario, its Crown agencies, its agents, its boards and commissions, and its municipalities to comply with the provisions of the Pension Benefits Act.

Recommendation 110. Any act or regulation governing a public sector pension plan whose provisions are not in accordance with the Pension Benefits Act should be amended immediately to comply with all requirements of the Pension Benefits Act and to be subject to the requirements of the Pension Benefits Act.

Recommendation 111. The Pension Benefits Act should be amended to apply immediately to the Legislative Assembly Retirement Allowances Account in the same fashion as it now applies to public sector employees' plans. Any unfunded actuarial liability in the account at the effective date of such amendment should be treated as an initial unfunded liability on which interest only is payable under Section 1(13) of the regulations under the Pension Benefits Act, subject to the making of payments which may be necessary from year to year to fulfil cash flow requirements.

Recommendation 112. The Government of Ontario should immediately adopt a policy of determining the full and true cost of all pension benefits provided to employees in the Ontario public sector and to utilize such information for the following purposes:

a) to recognize and control the cost of all such benefits for the full term of their accrual;

b) to allocate cost fairly between employer and employees;

c) to provide information on such costs to both employers and employees, whether or not such pensions are subject to collective bargaining;

d) to provide information on such costs to taxpayers.

FUNDING (See also Recommendations 58 to 73)

The Commission examined the funding status and the cost of fulfilling the funding requirements of public sector pension plans. Its studies showed:

(i) Six of the plans control assets in the order of $9 billion which is the major portion of assets of all public sector plans. Funding of public sector plans is required not so much for security for employees as for cost control. Overall, the plans are reasonably well-funded.

(ii) The funded status of the six plans at the time of their most recent respective valuations was:

PSSF	*(31 Dec. 1976)*	*67.9 per cent*
TSF	*(31 Dec. 1978)*	*80.6 per cent*
OMERS	*(1 Jan. 1978)*	*91.3 per cent*
HOOPP	*(31 Dec. 1978)*	*91.1 per cent*
Hydro	*(31 Dec. 1979)*	*106.7 per cent*
WCB	*(31 Dec. 1977)*	*121.5 per cent*

(For basis of determination, see Volume VI, Chapter 5, Table 5).

(iii) Public sector employees contribute to pensions 6 per cent of earnings (less CPP contributions); and in most plans the employer contributes the balance of the cost. In some plans (e.g., PSSF, TSF) the legislation requires the province to "match" the contribution of the employees; but the matching contributions do not produce sufficient monies to fund the promised pension benefits in accordance with the Pension Benefits Act.

(iv) In plans governed by the Superannuation Adjustment Benefits Act (PSSF, TSF, Ryerson Pension Fund, Caucus Employees Retirement Fund), employees and employers now contribute a matching 1 per cent of salary to pay for the indexing of pensions. This matching contribution may not produce sufficient monies to ensure payment of the promised indexing in the future.

(v) Segregation of monies from those of the employer to pay for pensions is a cardinal principle of the Pension Benefits Act to protect employees and to identify investment proceeds. Public sector funds which do not utilize a separate fund are PSSF, LARA and the superannuation adjustment funds.

(vi) The estimates of liabilities of the plans are affected by the actuarial methods and assumptions used in the valuations.

The Commission therefore makes the following recommendations:

Recommendation 113. The principle of "matching contributions" in all public sector plans providing defined benefits should be abandoned, and both legislation and established policies setting contributions on a matching basis in such plans should be amended so that contribution rates reflect the true cost responsibilities under the plan.

Recommendation 114. The Public Service Superannuation Fund (PSSF) should be established as a separate fund apart from the Consolidated Revenue Fund and the Treasurer's Account, with an initial unfunded liability as of January 1, 1965 on which only interest is payable pursuant to Section 1(13) of the Pension Benefits Act regulations, with all other initial unfunded liabilities or experience deficiencies to be amortized by special payments in the usual way under the Pension Benefits Act. A similar fund should be established for the Legislative Assembly plan when it is brought under the Pension Benefits Act as recommended.

Actuarial Valuations

As required by Recommendation 66, all pension plans in the public sector having assets of $150 million or more should file an annual actuarial valuation with the Pension Commission of Ontario within nine months of the fiscal year end of the plan. Those plans not required to file annually under Recommendation 66 should be placed on the same fiscal year end and the filing of actuarial valuations co-ordinated so that these plans will all report for the same period. (See Recommendation 67).

Recommendation 115. For actuarial valuations of all public sector plans, a basis for actuarial assumptions should be prescribed as follows, with the assumptions derived from such basis to be subject to the approval of the Pension Commission of Ontario:

a) the investment rate of return, setting out separately:

   (i) the inflation rate forecast for pension purposes by the Treasurer of Ontario;

   (ii) the real rate of return;

   (iii) the risk factor, provided that where the fund is invested in Canada or Ontario debt instruments no risk factor be taken into account; where the fund is invested in other market securities, all factors to apply; where the fund is invested in

both categories of investment, the applicable rate be applied to the appropriate portion of the fund;

b) the salary scale, setting out separately:

(i) the inflation rate, being the same as that used for the investment rate of return;

(ii) merit increases;

(iii) productivity;

c) the YMPE set for the year by Canada Pension Plan legislation;

and decremental assumptions for mortality, disability, and terminations should be assessed against actual experience every three years for each of the PSSF, TSF, HOOPP, Hydro, and such others which become large enough to produce significant results. Such assumptions should be set by the plan actuary taking into account such actual experience, and for this purpose a regular demographic forecast should be undertaken by the Government of Ontario for each plan, and data maintained for assessing the experience of the plan against the forecast.

Funding of Indexing

The Commission does not object to the post-retirement indexing of pension benefits subject to an assessment of the degree of indexing which should be provided. Whether or not indexing is desirable and affordable is a matter of negotiation between employer and employee. As with private sector plans, however, the Commission is concerned that, once made, the indexing promise is secure. The Superannuation Adjustment Benefits Act (SABA), which covers plans designated under it (PSSF, TSF, Ryerson Pension Fund and the Caucus Employees' Retirement Fund) does not provide a mechanism which in the Commission's opinion is satisfactory. The act provides for indexing to the Consumer Price Index for the year ending September 30 to a maximum of 8 per cent. Where the CPI increase in the year is greater than 8 per cent, the difference is carried over to a later year in which the increase is less than 8 per cent. Employers and employees each pay 1 per cent of salary. Interest is credited annually at a rate determined by the Lieutenant-Governor in Council. The 2 per cent total contribution rate would have to increase eventually to about 7 per cent of earnings to pay for the promised indexing for the PSSF and the TSF.

The Commission therefore makes the following recommendations for discontinuance of the SABA approach, with alternate recommendations for its operation if the government does not see fit to repeal the legislation:

Recommendation 116. The Government of Ontario should take immediate steps to phase out the Public

Service Superannuation Adjustment Fund (PSSAF), the Ryerson Adjustment Fund, the Caucus Employees Adjustment Fund, and the Teachers' Superannuation Adjustment Fund (TSAF) and in due course repeal the Superannuation Adjustment Benefits Act. In the interim, payments for adjustment should continue out of the four adjustment funds with all payments out of these funds to cease at December 31, 1981, and in the future to be made from the principal funds. All funds from the contributions by employees and the government as employer should be transferred to the Public Service Superannuation Fund, the Ryerson Pension Fund, the Caucus Employees Retirement Fund, and the Teachers' Superannuation Fund respectively as of that date. Any unfunded liabilities created by this change should be treated as initial unfunded liabilities and be amortized over 15 years in the respective funds.

Recommendation 117. Post-retirement adjustments for persons who retired before January 1, 1976 and are receiving post-retirement adjustments out of the Consolidated Revenue Fund of Ontario, should continue on the present basis.

Recommendation 118. In the case of ad hoc adjustments made in public sector plans on a regular basis but outside the pension plan itself, the Government of Ontario should take steps to bring such payments within the framework of the pension plan for cost identification purposes.

Recommendation 119. The Government of Ontario should take no steps to adopt terminal funding for post-retirement adjustments or to extend the use of supplementary adjustment funds for the purpose of providing post-retirement adjustments outside the funding provisions of the Pension Benefits Act.

Recommendation 120. If the Government of Ontario is not prepared to abolish the SABA approach, as recommended, and continues the indexing of pension benefits out of a separate fund contributed to by government and employees on an equal basis:

a) the indexing promise should be changed from the present 8 per cent cap with carry-over, so that the government responsibility is limited to its 1 per cent contribution to the SABA fund;

b) the SABA fund should be operated on a pay-as-you-go basis with each employee being clearly warned that adjustments can be made only to the extent of the fund, and that they may not receive an adjustment when they retire;

c) consideration should be given to making participation in this fund voluntary for the employee;

d) this approach should not be permitted for private sector plans.

Funding and investment go hand in hand in pension planning. Investment performance affects the cost for the taxpayers, and security and potential benefit improvements for plan members. All public sector plans have funds to be invested. Most plans invest in financial market instruments in the same manner as private sector pension plans. Some (e.g., TSF) hold only non-marketable debt instruments of the province. Some such as OMERS use both. Some have insurance company deposit administration plans. The PSSF assets of over $1 billion, however, are represented by an account in the Consolidated Revenue Fund with interest credited annually at a rate determined by the provincial treasurer.

The Commission believes that fundamental changes are required in the investment policies for some public sector pension plans. Adoption of its recommendations should have several advantages:

(i) improved and visible rates of return on pension fund assets;

(ii) greater amounts of capital available for private market utilization;

(iii) controls on public borrowing if the government is forced to borrow at market rates of return;

(iv) visibility of pension cost to government, taxpayers, and plan members;

The Commission therefore makes the following recommendation:

Recommendation 121. The Government of Ontario should adopt a policy of investment for all public sector pension funds, including the funds to be created for the PSSF and the Legislative Assembly Retirement Allowances plan, incorporating the following principles:

a) all investments should be in the form of marketable securities;

b) all funds and investments should be segregated from government funds, even on a short-term basis;

c) book entries such as those currently used for the PSSF, and non-marketable securities such as those now used for the TSF should be discontinued and replaced as soon as practicable with marketable securities;

d) all future investments should reflect market rates of return;

e) some portion of the investment of a plan should be made in the private sector within the investment regulations of the Pension Benefits Act.

Cost of public sector pensions is a major concern to this Commission. The very size of public sector coverage means that even a small error in calculating cost can have a significant effect on total cost. Cost has less significance in the private sector where the cost of pensions is ultimately a market decision. This discipline does not exist in the public sector. Cost is of interest not only to the government as employer and to employees, but to taxpayers who have a valid interest in determining whether such costs are reasonable. Difficulties in determining the costs of public sector pensions are compounded by several factors:

(i) *Although the accounting techniques used to determine pension costs in the public accounts of the province appear appropriate, it is not easy to appreciate the full impact of the cost figures because they are often spread throughout the public accounts.*

(ii) *More importantly, lack of data for comparable periods and prepared on comparable bases makes it extremely difficult to get a clear picture of the total cost of public sector pensions.*

(iii) *We have seen that the choice of actuarial funding method affects the ultimate cost of a pension, and we accept this variability in the public sector as well as in the private sector (see Volume II, Chapter 9).*

(iv) *The matching contribution principle also obscures cost. For example, the employer cost of teachers' pensions including indexing for 1978-79 was 14.74 per cent of payroll for a total cost of 21.74 per cent. The difference of 7.74 percentage points means that the annual cost is 55 per cent more than the total (14 per cent) of the matching contributions.*

(v) *Items of cost include not only current service cost but supplemental liability payments, administrative expenses, and superannuation adjustment costs. The causes of supplemental liabilities are not readily isolated.*

(vi) *Further distortions arise from prepayments and variations in the timing of payments. These may be advantageous in private sector plans but may distort the true cost picture in the public sector.*

(vii) *The continuance of surplus funding (e.g., WCB pension plan) also distorts the overall pension cost picture.*

(viii) Some benefits are not easily costed. Various retirement conditions such as the rule of 90, or age 60 with 20 years' service, create a significant retirement subsidy since CPP integration does not occur until age 65 (the normal retirement age in private sector plans). The cost of this "bridging" benefit is not readily seen.

(ix) Even if the cost picture were clear, there is no authority at present with the power to assess the costs and make any change to control or alter them.

Financial data show that the funded position of some of the six plans studied has deteriorated, and there is a marked trend towards increased cost as a percentage of payroll.

The Commission therefore makes the following recommendations to bring about effective cost control of public sector pensions through determination, disclosure and assessment of total cost of pensions:

Effective Cost Control

Management Board Responsibility

Recommendation 122. Responsibility for cost control of all public sector pension plans should be placed with Management Board of Cabinet, with power to scrutinize the operation of each plan and to control the cost and obligations of each plan through budgetary control of the plan sponsor.

Recommendation 123. To assist Management Board in its responsibility, Treasury should assume four independent responsibilities relating to public sector pension plans:

a) to set the inflation factor for use in determining salary scales and interest rates as required for actuarial valuations of public sector plans;

b) to scrutinize and evaluate from a true and total cost perspective the actual operating experience of each public sector pension plan and to report its findings to Management Board;

c) to evaluate the true and total cost of proposals for change in each plan and determine the contribution rates for both employees and employer to pay the full cost of such changes (all proposals to be submitted through Management Board to Treasury for costing before any such change is made) and to report its findings to Management Board; such findings to be available to the public on request;

d) to report periodically to the public on the operation of public sector pension plans, and in particular the cost of the plans in dollars and as a percentage of payroll and the cost-sharing

between employer and employee; such report to be made annually for the PSSF, TSF, Hydro, HOOPP, OMERS, and WCB, and at least every six years for all other public sector pension plans.

Recommendation 124. Guidelines, similar to those developed by Management Board in 1976 for the five largest sector plans and the WCB, should be developed by Treasury in carrying out its recommended responsibilities of scrutinizing and evaluating the operation of all public sector plans for cost control purposes. The guidelines should incorporate the Commission's recommendations for funding (see Recommendations 113 to 120 for public sector plans as well as Recommendations 58 to 73 for funding in general).

Recommendation 125. Employers in a surplus funding position (e.g., WCB pension plan) should apply immediately for a refund of the surplus pursuant to the Pension Benefits Act to be applied to the current service cost of the pension. No public sector pension plan should normally continue in a surplus position for more than one valuation period.

Recommendation 126. The Treasury, in carrying out as recommended its responsibility of scrutinizing and evaluating the operation of all public sector plans, should review, at least every six years, the funding of all public sector pension plans through an examination of each plan, on a basis consistent for all the plans, to allow comparisons of funding among the plans. The results of such examination should be used by Management Board in assessing the future cost of all the plans, and for the purpose of reporting to the public.

A very important aspect of the cost-determining role of the Treasury will be the full costing of plan improvements before they are instituted. The six-year review will allow a close scrutiny of unfunded actuarial liabilities and surpluses in all plans with a view to identifying their causes and taking measures to control them.

The Commission believes that recognition of the true cost of pensions at the level of Management Board will enable it to control costs effectively in the future. However, if this or some similar alternative is not feasible within the governmental structure, then the Commission recommends:

Recommendation 127. If the necessary authority to control pension plan costs cannot be given to Management Board or cannot be successfully used by Management Board to control pension plan costs, the Government of Ontario should consider making changes in pension plan design to convert existing plans to defined contribution (money-purchase) plans or to some other design in which cost control is effective.

Parity with the Private Sector

The Commission believes that government must take notice of strong public statements concerning differences between public and private employee benefits. Public sector employees are better off in terms of pension benefits than are private sector employees. Coverage is higher in the public sector: 94.8 per cent compared to 39.1 per cent. Almost 96 per cent of plan members in the public sector are in a final earnings plan compared to 31 per cent in the private sector. About 83 per cent have survivor benefits compared to 21 per cent in the private sector and 81 per cent have a full accrued disability benefit in the plan compared to 28 per cent of private sector members. Almost no members in the private sector have automatic adjustment for inflation (95.2 per cent have none) while almost 60 per cent of members in the public sector have some automatic protection. A good measure of portability exists within the public sector through reciprocal transfer agreements which are virtually non-existent in the private sector.

The cost of pensions is inevitably affected by the generosity of the benefits. In the Commission's opinion, the taxpayer must not be obliged to shoulder the cost of pension benefits for public sector employees while they cannot hope to gain comparable benefits for themselves because of cost limitations in the private sector. The Commission therefore makes the following recommendation for parity with the private sector. This, effected in combination with Management Board responsibility, will result in effective cost control of public sector pensions:

> Recommendation 128. The Government of Ontario should seek to achieve parity with the private sector in total compensation of its employees, and in particular should not provide pension benefits more generous than those generally available in the private sector (measured by the full cost of such benefits). The government should not lead the way for the private sector, particularly in the areas of inflation adjustment and early retirement without actuarial reduction.

SPECIAL ISSUES

On a number of special issues affecting public sector plans, the Commission makes the following recommendations:

Collective Bargaining

Some public sector pensions are excluded from the scope of collective bargaining directly or indirectly as a result of legislation. The Crown Employees Collective Bargaining Act, covering the PSSF, expressly excludes pensions from the scope of bargaining, although it states that the governing principles should be subject to review by the employer

and the bargaining agent. The OMERS Act allows negotiation only of specified supplementary benefits, while the Teachers' Superannuation Act makes no reference to collective bargaining. In effect, the provisions of these plans can be altered only by negotiation with the government as opposed to the direct employer.

HOOPP is theoretically bargainable but the various unions in the health sector do not have representation in all member hospitals. Even if they did, they could not realistically negotiate the provisions of the plan unless they were to bargain jointly. The same problem would exist in the PSSF, TSF, and OMERS if it were possible to negotiate the provisions of these plans, since all are multi-employer plans. In a few cases, notably in a number of universities, it would appear that pensions are not negotiated because unionized employees constitute a minority of the plan's members.

Most unions have expressed the view that pensions should be negotiable on the ground that employer contributions to pension plans represent employee income, in the same way as salaries or other benefits, and that it is anomalous that they should be able to bargain over all items of compensation except pensions.

The Commission examined problems of permitting negotiation of pension matters, namely the possibility of fragmentation of plans and the difficulty of controlling costs in non-market public sector negotiations. The Commission examined alternatives to collective bargaining such as employee control of pensions, limited bargaining, and joint consultation (the present situation).

While the Commission favours the principle of collective bargaining, formal or informal, between employers and employees to determine pension benefits, it is not prepared to recommend any move to increased formal collective bargaining in the public sector at this time.

> Recommendation 129. Pensions should be considered as appropriate for collective bargaining in the public sector subject to the acknowlegement that there may be some circumstances in which collective bargaining may not be practicable; no new areas for collective bargaining of pensions should be opened at this time.

Reciprocal Transfer Agreements

The ability to transfer pension service credits from one plan to another through reciprocal transfer agreements is prevalent in the public sector because of the homogeneity of the employers. Under these agreements, double contributions with a nominal rate of interest are transferred from one fund to another. These agreements result in higher costs to public sector employers and may result in increased benefits for the transferring employee.

Recommendation 130. The terms of reciprocal transfer agreements for public sector employees should be reviewed and, where necessary, altered to result in neither undue gain nor undue loss to the person making a transfer from one plan to another, and to ensure that the cost of additional benefits which become available upon transfer, such as improved benefits for past service with other plans, are fairly allocated between the employer and the employee.

Pensions for Provincial Judges

Judges

Ontario has jurisdiction over the pensions of some 190 provincial court judges and 8 small claims court judges. Pensions for these judges are provided under the Public Service Superannuation Act in the same plan as provincial civil servants.

The independence of the judiciary requires enactment of a pension plan for judges separate from that of civil servants. (A separate plan is maintained for members of the Legislative Assembly).

Recommendation 131. A pension plan separate from that for public servants generally should be enacted for all members of the judiciary to whom Ontario's legislative powers extend.

Earlier Unreduced Retirement Benefits

Recommendation 132. The Government of Ontario should not take steps to lower the existing retirement ages at which unreduced pensions are available except where it can be demonstrated that unreduced pensions at earlier ages are a necessity for a special group. In those cases the additional cost of earlier unreduced retirement benefits should be fairly borne by employer and employees.

Earnings or Retirement Tests

Some public sector plans impose an earnings test (e.g., PSSF) on retirees whether or not the retiree has attained age 65, and the amounts of pension are reduced in accordance with earnings. Inequities exist as a result of such earnings tests. Furthermore, there is little support for the imposition of an earnings test after age 65. However, the right to retire on an actuarially unreduced pension prior to age 65 is common in the public sector. Those retiring before age 65 therefore obtain a substantial "bridging supplement" since the employer pays the equivalent amount of CPP benefits until the retiree reaches age 65. An earnings test, therefore, is appropriate prior to the age when retirement income from government programs begins.

Recommendation 133. All earnings and retirement tests should be abolished for retired employees who have attained the age of 65. Any other action should be determined after monitoring the effect of the Revenue Canada rules and examining its own re-employment policy so that public sector policy for re-employment conditions will be consistent with that in the private sector.

Plan Administration

As we have seen, there is no overall government control of the cost of pensions. Similarly, there is no overall co-ordination of pension benefits and plan provisions.

The Commission considered and rejected the alternative of a consolidated pension plan for all employees because of the difficulty of regulating funding and matters between employer and employee for diverse groups. The Commission also rejected the alternative of a central pension board for the public sector. Cost control - the most important function of such a board - can be best performed through Management Board and the Treasury as we are proposing (Recommendations 123 to 127).

However, there is a need for some body to deal specifically with individual employee matters. This should be done under the Pension Commission of Ontario, as recommended for all employment pension plans (see Recommendation 86).

The Commission considered a number of other special issues but has made no recommendations concerning them. Reference should be had to Volume VI, Chapter 6 of the report. The Commission believes that specific changes in benefit provisions are appropriate matters for informal bargaining between employer and employees and should not be determined by this Commission. The Commission is concerned that the full cost of proposed benefit improvements be clearly identified and that such cost be borne by employer and employees through appropriate contribution rates.

Part V

Special Retirement Concerns

THE EFFECT OF INFLATION ON RETIREMENT INCOME (Volume II, Chapter 10)

The Commission studied the effect of inflation on retirement income and found:

(i) The problem of inflation affects all members of Canadian society but chiefly those on fixed incomes. Pensioners in particular suffer a substantial loss of purchasing power in periods of high inflation. In addition, they are not in a position to benefit from productivity growth and so are unable to achieve any improvement in living standards comparable to those still in the work-force, even in the absence of inflation.

(ii) The adequacy of any pension, regardless of the plan formula, is impaired by inflation before as well as after retirement.

(iii) Existing government programs provide substantial protection from inflation.

(iv) It is desirable to encourage individuals to set aside monies to provide income in retirement.

(v) Ontario residents are generally in favour of total indexing for government and employment pensions.

(vi) The Commission considered and rejected the following methods of protecting retirement income from inflation beyond the protection provided through government programs:

a) mandatory indexing of employment pension benefits by employers;

b) indexed bonds;

c) government inflation insurance.

The Commission makes the following recommendations:

Government Programs

Recommendation 134. The annual income in retirement guaranteed by the Federal and Ontario governments should continue to be protected from inflation.

a) The Old Age Security and Guaranteed Income Supplement programs should continue to be indexed quarterly to increases in the Consumer Price Index. The Guaranteed Annual Income System (GAINS) should continue to reflect federal adjustments for inflation.

b) The Canada Pension Plan should continue to be adjusted in accordance with the average industrial wage prior to retirement and annually in retirement in accordance with increases in the Consumer Price Index.

Recommendation 135. The Consumer Price Index should continue to be the measure for indexing of government programs, with no steps taken to develop a different index for those 65 and over.

Inflation Tax Credit

Because the problem of inflation affects all members of Canadian society but chiefly those on fixed incomes, it is not appropriate, in the Commission's opinion, to use government compulsion to ameliorate the position of only those who are members of employment pension plans, since all taxpayers pay for the cost of indexing indirectly through the tax system.

The Commission, one member dissenting, recommends that protection from inflation beyond the level of the minimum income guaranteed to the elderly by government programs be provided for all retired persons in society up to a maximum level consonant with desirable social objectives and resources available.

The Commission therefore makes the following recommendations:

Recommendation 136. The Commission recommends that the Government of Ontario seek changes in the Income Tax Act (Canada) and the Income Tax Act (Ontario) to introduce a refundable Inflation Tax Credit for all residents of Ontario aged 68 and over to protect from inflation a measure of total retirement

income above the level of government floor programs (OAS, GIS, CPP, and GAINS), in step with cumulative changes in the Consumer Price Index. (One Commissioner dissented from this recommendation for the reasons set out in the text in Volume II, Chapter 10, under the heading "Inflation Tax Credit").

An appropriate amount for this protection might be twice the total of the OAS pension and the maximum CPP pension for the year. For 1986 this would afford protection for $11,925.20 of retirement income in addition to the OAS and CPP which are already fully indexed to the Consumer Price Index. See Volume II, Chapter 10, for a complete explanation of how such a tax credit might apply in practice.

Recommendation 137. With a view to contributing to the financing of such inflation protection, the Commission recommends that the Government of Ontario seek changes to the Income Tax Act system:

a) to make all income from whatever source subject to income tax, including in particular Workmen's Compensation payments.

b) to eliminate the present tax exemption related to age 65.

c) to eliminate the present tax deduction for pension and annuity income.

Employment Pensions

Loss of purchasing power through the effects of inflation should be borne by the individual except as modified by the implementation of the following recommendations, by government programs, by ad hoc adjustments by employers in employment pension plans, and by means arrived at between employers and employees through the collective bargaining process.

Recommendation 138. Although the Government of Ontario should not in general oblige employers with pension plans to provide inflation protection, the Commission recommends that employers and employees be free to provide indexing if desired and as determined within the collective bargaining process, provided that such inflation adjustments are funded in the manner recommended by the Commission in Recommendation 73 with a view to protecting active and retired plan members and preventing any diminution or impairment of basic retirement benefits.

Many have advocated and some have adopted the practice of making post-retirement adjustments out of gains to pension funds arising from investment earnings in excess of those assumed by the actuary in forecasting costs. Thus if the interest rate assumed was 6 per cent and the rate of return actually earned was 9 per cent, the fund would have a gain or "excess interest" over that expected. This gain would be available to adjust pension benefits rather than to reduce employer cost.

The Commission supports a limited approach to this use of the "excess interest" concept. It may be used effectively by segregating from the pension fund those amounts required to support pensions already in payment. The retired group then benefits from gains on this segregated fund in a way similar to a participating annuitant subject to a guarantee of a minimum pension amount. A participating annuity is one which guarantees a basic monthly payment increased by any additional earnings on the capital above those required to pay the basic amount.

> Recommendation 139. The Pension Benefits Act should be amended to require that every pension plan shall provide an employee retiring under the plan the option of a participating annuity. The employer may choose to purchase the participating annuity from an insurance company or to make pension payments directly from the fund. Where such annuity is payable from the pension fund the monies required to purchase such an annuity should be held in a segregated account with those for all other annuitants who have elected participating annuities, with such annuitants to share in any "excess interest" earned on the fund in each year. Where such annuity is paid out of the pension plan, the transfer of assets into the segregated account should be regulated by the Pension Commission of Ontario, including the setting of interest rates for the division of the fund and for the minimum annuity payable. The employer should receive any benefit for mortality gains and bear any loss for mortality losses, and should be responsible for guaranteeing the minimum annuity promised.

RETIREMENT AGE (Volume III, Chapter 15; Volume V, Chapter 8)

Although selecting age 65 for the beginning of retirement is arbitrary and may create artificial differences between those above and below age 65, it is a convenient social planning tool. A notional age of retirement has proved more satisfactory than an earnings or retirement test. A continued improvement in health and extended life expectancy eventually may make age 65 seem an early age for normal retirement. The Commission favours flexibility in the choice of retirement age for the individual, but this goal of flexibility must be balanced against the constraints of overriding social and economic policies. The Commission takes no position in the current debate on whether the protected age for right to employment should be raised. It does however make recommendations regarding changes in eligibility ages for government programs and employment pensions.

Early Retirement

The Commission found:

(i) While retirement tends to occur around 65, there is a trend to earlier retirement which is expected to continue.

(ii) Age 65 is the most widely accepted normal retirement age in pension plans, but nearly all plans provide for early retirement on a reduced pension.

(iii) Early retirement without actuarial adjustment increases pension costs substantially. Retirees need income over a longer period of time; periods of interest accrual before retirement are shorter; and inflation erodes the income over a longer period thereby affecting inflation adjustments.

Government Programs

Although the Commission supports flexibility in the individual choice of retirement age, it does not support flexibility if government transfer payments must then be paid at an earlier age. Lowering the basic age of entitlement would encourage earlier retirement, increase the costs of government programs and discourage work. The Commission therefore makes the following recommendations:

> Recommendation 140. The Government of Ontario should take no steps to lower the age of eligibility for retirement benefits of federal or Ontario government programs from the existing age of 65.

> Recommendation 141. The Government of Ontario should take no steps to lower the age of eligibility for retirement benefits of federal or Ontario government programs on an actuarially reduced basis.

Because the Spouse's Allowance program discriminates between unmarried and married persons aged 60 to 64 and produces inequities between married couples eligible for the Spouse's Allowance and those in which one partner is 65 or over and the other is below 60, the program should be phased out (see Recommendation 14).

Employment Pensions

> Recommendation 142. The Pension Benefits Act should be amended to create an option for every member of an employment pension plan to elect early retirement under the plan on an actuarially reduced basis at any time between age 60 and age 65 or the normal retirement age under the plan, whichever is the earlier.

Postponed Retirement

While there has been a long-term decline in labour force participation by the elderly, public opinion more recently has come to support the right of individuals to work beyond age 65, the usual age at which retirement is imposed on employees. While taking no position on the merits of postponed retirement, the Commission is concerned that those who work beyond normal retirement age should receive pensions which

reflect, in an equitable degree, the actual age of retirement. Unless an actuarial adjustment is provided, the employer's cost (of a defined benefit) is reduced when an employee's retirement is postponed. In the Commission's view such a result - that is, enrichment of the pension fund at the employee's expense - should not be permitted.

Employment Pension Plans

> Recommendation 143. The Pension Benefits Act should be amended to create an option for every member of an employment pension plan who continues to work after normal retirement age under the plan to postpone taking of the pension beyond normal retirement age and to accrue an actuarial increase in the pension until retirement.

Government Programs

> Recommendation 144. The Government of Ontario, in the absence of strong evidence of a need to encourage work-force participation beyond age 65, should take no steps to provide actuarially increased benefits in either federal or Ontario government programs if taking of benefits is delayed past age 65, except to the extent it now exists in the Canada Pension Plan.

WOMEN AND THE PROVISION OF RETIREMENT INCOME (Volume III, Chapter 16; Volume V, Chapter 8)

While retirement arrangements are not inherently discriminatory against women, their design and operation result in women obtaining minimal retirement income. Most women have less potential income from employment pensions and are more likely to require government assistance in old age. The Commission found the following factors contribute to the disadvantaged position of women in the provision of retirement income:

(i) their longevity continues to increase, thereby widening the gap between their life expectancy and that of men: women need income for longer periods of time and their incomes will be affected by inflation for longer periods;

(ii) their position, both actual and assumed, as non-working dependent wives: survivor benefits are inadequate even where available; elderly women, often widowed, rely heavily on government programs.

(iii) their subordinate role in the work-force in spite of the phenomenal rise in work-force participation, particularly of married women: women are less likely than men to be members of a pension plan; women have broken service patterns reflecting the effect of child-rearing; women are more

likely to work on a part-time basis; women are in lower-paid occupations; women have greater job mobility; in all, women are more likely to receive a lower pension and are less likely to obtain any pension at all.

The Commission's earlier recommendations aimed at providing a minimum adequate retirement income to all persons from government sources will improve the situation of elderly women living in poverty today. Recommendations for a mandatory retirement savings plan, which would make all employment pensionable and provide complete portability and minimum death benefits before and after retirement, will improve the situation of working women over time. However, some recommendations are of particular interest for women.

Eligibility for membership in employment pension plans will be extended to a large number of part-time workers, a majority of whom are women, if the Commission's Recommendation 97 is adopted. In advocating this important extension of coverage we recognize that pension benefits are part of employment compensation, and so should not be denied to anyone who has a durable employment relationship. Whether a part-time worker should be required to join the employer's plan as a condition of employment is a matter to be decided according to the rules applicable to other employees. If a mandatory plan (PURS) is adopted, the Commission favours an eligibility standard that would cover regular part-time employment but would permit individuals to elect not to join a pension plan other than PURS.

Society increasingly supports non-discrimination between men and women in the provision of benefits. A woman's need for an adequate level of income in retirement is no different from that of a man. The Commission has recommended unanimously that unisex tables be used for the calculation of annuities under the mandatory plan (see Recommendation 105). The Commission, two members dissenting, has also recommended that unisex tables be used for annuities purchased for all money-purchase plans and RRSPs (see Recommendation 106).

In order to recognize women as a vital part of the work-force and to allow for the interruptions of careers for child-rearing, the Commission has recommended that the Province of Ontario approve the amendment to the Canada Pension Plan for the child-rearing dropout provision as now legislated, to take effect without delay (see Recommendation 32).

The Commission makes the following recommendations relating to support issues between married persons:

> Recommendation 145. Under the Ontario Family Law Reform Act pensions should be regarded as income in retirement which may be a source of support in the event of marriage breakdown, and not treated as a capital asset.

Recommendation 146. In order to avoid existing difficulties in attaching pensions to satisfy support orders, consideration should be given to redrafting Section 30 of the Family Law Reform Act in consultation with the Pension Commission of Ontario.

For the long term, the Commission favours an approach which would end the discrimination in pension plans that arises from an assumption that married women are dependent on their husbands. In the short term, however, established dependencies must be recognized. If present structures remain unaltered, massive fiscal transfers will be required in the future to provide women with a decent income in their increasingly long lives. The system should be redesigned now to fit the emerging reality of women as workers and to open as many avenues as possible for women to contribute to their own future security. The Commission therefore makes the following recommendation:

Recommendation 147. The Province of Ontario should take no new steps to support the use of assumed need arising from marital status as a basis for employment pension design, for example, by requiring plans to provide a non-elective joint and survivor form of pension.

However, if a joint and survivor annuity as the primary benefit for an employment pension, which can be altered only on the written consent of the spouse, is legislated as recommended by the Commission (see Recommendation 54) a woman who is dependent on her husband for retirement income will be afforded some protection where none is now available.

GOVERNMENT REGULATION - TAXATION (Volume III, Chapter 14)

By allowing deductions for income tax purposes to both employers and employees in employment pension plans and to contributors of Registered Retirement Savings Plans (RRSPs), the federal government is in a strong position to control and direct the development of employment pension plans and other retirement income arrangements. It is important therefore that decisions made for tax policy reasons be examined for their effect on pension benefit policy, which is primarily within the control and direction of the province. It is within the power of the Government of Ontario to negotiate with the federal government to ensure a suitable balance between the respective goals of tax policy and pension benefit policy. The Commission makes the following recommendations directed to the emphasis the Government of Ontario might seek in tax policy:

Recommendation 148. The Government of Ontario should consider with the federal government common goals for retirement income provision to be achieved by the interaction of federal tax policy and provincial social legislation.

Recommendation 149. Since the main goal of providing tax-sheltered funds is to finance retirement income, steps should be taken to curtail existing tax incentives for cash withdrawal from employment pensions before vesting.

Recommendation 150. Roll-overs of pension benefits and retiring allowances into RRSPs should be monitored to ensure that amounts in excess of reasonable retirement requirements are not thereby receiving tax shelter.

Recommendation 151. The Government of Ontario should consider with the federal government, against the background of tax treaty negotiations, the effect on Canada's capital markets and trade balance of situations in which tax-sheltered funds from retirement income vehicles may be diverted to other countries.

The Commission, one member dissenting, has recommended that the Government of Ontario should take steps to implement an inflation tax credit under the income tax system to afford some protection against loss of purchasing power through inflation for all persons age 68 and over. (See Recommendation 136).

Government Programs

The Commission makes the following recommendations:

Recommendation 152. The Government of Ontario should seek amendment to the Income Tax Act (Canada) and make complementary amendments to the Income Tax Act (Ontario) and any other fiscal statutes, to base exemptions and deductions on a needs basis where these are now universal and in particular to replace the present age exemptions and the present pension deduction by other relief administered on a needs basis.

Recommendation 153. If the pension income deduction is to be retained, a minimum age should be adopted to avoid encouraging early retirement.

Recommendation 154. Income-tested tax exemptions and credits should take into account all income.

Retirement Arrangements

As noted in Recommendation 102, if a mandatory pension plan is adopted by the Government of Ontario, more flexibility in the benefit design of employment pension plans may be provided when the mandatory plan matures. In the interim some changes are necessary to treat retirement arrangements on a more equal basis. Pension plan members may receive tax deductions for contributions up to $3,500 on account of current service and for contributions for past service. Contributors to

RRSPs are limited to 20 per cent of earned income to a maximum of $3,500 (or $5,500 if not a member of a registered pension plan) and no contributions may be made on account of prior years. Saving for retirement increases with age, and the 20 per cent limitation is unrealistic. Its removal would compensate for the inability to make "past service" contributions. The Commission makes the following recommendations:

> Recommendation 155. Contributions for RRSPs should be permitted to the maximum dollar amounts specified, and the percentage limitation of earned income should be removed.
>
> Recommendation 156. Deductions by employer and employee for past service contributions to money-purchase plans should be permitted.

As already noted, in order to provide additional flexibility in pension rights on termination it will be necessary for the Government of Ontario to seek amendment to the Income Tax Act (Canada) and make complementary amendments to the Income Tax Act (Ontario) and any other fiscal statutes to create a new type of locked-in pension vehicle to which transfers of funds can be effected from employment pension plans (see Recommendation 45, 50 and 51).

CONSTITUTIONAL ISSUES (Volume III, Chapter 18)

Although the area of pensions was not specifically assigned to either the federal or provincial governments in the British North America Act, legislative jurisdiction has been assumed by the provinces as property and civil rights. In practice, however, legislation concerning both employment pensions and government programs has been achieved through a high degree of co-operation among governments.

Amendments to the BNA Act permitted the federal government to enact the Old Age Security Act and the Canada Pension Plan. The Commission believes that providing a basic level of income in retirement to the needy elderly should continue to be achieved by an overall national approach combined with supplementary support and co-operation by the provinces. The province of Ontario should continue to participate in the Canada Pension Plan to provide a measure of replacement income in retirement.

Six provinces and the federal government have enacted pension benefits legislation. They have made arrangements for uniform administration and common registration procedures, but significant differences are beginning to emerge in policy and regulation in various jurisdictions. In the result, there are signs of increasing administrative complexity in cases where an employment pension plan covers members in two or more jurisdictions; employees as well as plan sponsors are likely to have difficulty ascertaining their rights and duties under divergent laws and regulations. One possible answer - a single federal super-

visory law and administration - would however fail to satisfy the desire of each province to respond to the needs and priorities of its own constituents.

While uniformity is a necessary goal its pursuit should not become an excuse for inaction. The Commission favours an approach of encouraging both policy and regulatory uniformity through joint consultation among the jurisdictions. It also recognizes that some changes have been delayed too long on the basis that change would upset uniformity. It is time for Ontario to amend its legislation, but in consultation with the other provinces and the federal government.

The Commission therefore makes the following recommendations:

Recommendation 157. The Government of Ontario should attempt to achieve changes in pension benefits legislation in consultation with other jurisdictions having pension legislation.

Recommendation 158. The Government of Ontario should embrace the principle of uniformity in pension benefits legislation among all jurisdictions in Canada and support the principle in its own legislation as far as possible.

Recommendation 159. The Government of Ontario should urge those provinces not now having pension benefits legislation to adopt legislation similar to that of Ontario.

Recommendation 160. The Government of Ontario should take steps to initiate an agency similar to the Canadian Association of Pension Supervisory Authorities (CAPSA) but with the express purpose of encouraging uniformity of pension policy, through discussion and consultation among persons who have input to government at the policy level in their respective jurisdictions.

Recommendation 161. The Government of Ontario should continue to support uniformity in pension regulation through CAPSA and assist in co-ordinating the role of CAPSA with that of any pension policy body that may be created.

Recommendation 162. The Government of Ontario should adopt a mandatory retirement savings plan on a provincial basis, and encourage other provinces to adopt similar plans, with interrelation through reciprocal agreements; and, if feasible, administrative co-ordination with the Canada Pension Plan.

Recommendation 163. The Government of Ontario should pursue a policy of co-operation with the federal government in matters affecting pension policy, such as tax deductibility and tax-sheltered vehicles.

Part VI

Economic Considerations for Retirement Planning

ECONOMIC CONSIDERATIONS FOR RETIREMENT PLANNING

In addition to assessing the cost of specific retirement income programs, the overall cost implications to society of providing income for the retired population must be considered. We must consider the capacity of the economy to provide for all the income commitments made to those who have retired and those who will retire - to allocate income from the productive population to the non-productive. To improve the financial position of the elderly will require an increasingly productive economy or a shift in income distribution in favour of the older population.

The Commission studied various economic issues to determine how much retirement income can be provided and through which mechanisms.

Saving and Spending

The standard of living in retirement depends on our willingness to postpone consumption in total and per capita. While saving must be balanced with spending, governments must ensure that a desirable minimum rate of saving is maintained through savings incentives such as tax deductibility for contributions to retirement arrangements as well as through compulsory programs such as PURS. Our projections show that the choice of strategies should favour investment rather than consumption.

Investment Return

If retirement income is to fulfil individual and public policy expectations, it must represent a real rate of return on capital and the return of that capital in real terms (i.e., excluding the effect of inflation). This is achieved in government programs through the index-

ing of benefits, and in employment pensions funds by rates of return of 2 to 3 per cent per year above the inflation component. Pension planners must make adequate provision for periods of low returns and potential capital depreciation. Pension plan participants should not be misled by optimistic long-range promises.

Employment Costs

Increases in the cost of labour, unless offset by improvements in output, can have a negative effect on investment decisions and eventually on all incomes. Pension promises involve a long-term labour cost commitment. If these costs increase unduly, employers will be less willing to undertake pension improvements. Employers and employees should be encouraged to regard the provision of retirement income as a high priority in deciding the composition of the compensation package.

Economic Growth

The potential level of retirement income will be determined by the total amount of income the economy is able to generate and therefore share among its inactive members. Real economic growth is basic to an increase in real incomes. If consumption rises more rapidly than GNP or investment the growth rate will decline.

We are experiencing at this time economic difficulties including a persistently high level of inflation, a rising level of unemployment and a sluggish rate of private investment. At first glance any additional cost should be avoided or postponed. Our studies show that the Canadian economy will not enjoy high rates of real growth in the next 10 years or more. Retirement income planning must accept that reality. It may therefore not be possible to satisfy all expectations for retirement income immediately.

Economic growth must be encouraged by utilizing the capabilities of both the private and government sectors.

CONCLUSIONS

The following points should be taken into consideration when any planning is done for retirement income provision. To ignore any of them is to court economic consequences which the Commission believes in the long run are unacceptable.

1. Without any improvement in existing benefit levels or design of government programs, OAS, GIS and SA, and GAINS, demographic trends indicate additional costs both because of longer life expectancies and the trend towards a greater proportion of women surviving into retirement. Continuing

inflation and benefit indexing also mean higher costs for existing programs.

2. *This cost burden will be borne easily or with difficulty depending on*

   a) *the size of the work-force, which will in turn be affected by birth rates, immigration and emigration and work-force participation rates; and*

   b) *the productivity of the work-force - that is, its ability to provide a real rate of growth in the Gross National Product.*

3. *Forecasts for real growth in GNP during the 1980s generally agree that growth will be slow and will not return to the rates of growth experienced in the 1960s. Some predict zero growth for the early 1980s.*

4. *Real growth in GNP is dependent in large measure on capital investment which is fostered by long-term savings. To the extent that government increases its share of GNP by transfer payments and finances its deficit through personal and corporate income taxes, the amount of GNP available for long-term capital investment will decrease, and with it the productivity of the work-force (the measurement of real growth in GNP). The lower the productivity the greater the burden of existing programs on the work-force.*

Government Programs

The overall effect of these factors, in the opinion of the Commission, is to create a climate for the 1980s in which any increases in existing government programs should be approached with great caution. It is a time, the Commission believes, when, recognizing that our resources for these programs are not limitless, we should husband those resources and live with the realities of the 1980s. Three ways of doing this are clear to the Commission:

First: *Any increases in existing government programs should be allocated on a needs basis only. This means that the OAS need not be increased on a universal basis; that net replacement ratios are an essential approach in assessing needs; and that indexing to wages, post-retirement, need not be instituted.*

Second: *Any improvements in government programs should be costed on a realistic basis to reveal in detail both present cost and projected cost. These costs must then be set into the framework of the share of GNP required to cover such costs, and the effect such allocation will have on capital investment. Real*

growth in GNP should be monitored with care to assess how much can be set aside for retirement income provision both from present consumption and savings.

An example of a policy change recommended by some which requires such cost assessment is the lowering of the age at which government programs are made available.

A most cogent example is found in the Canada Pension Plan. Increasing the CPP is advocated by many as a quick, efficient, and politically feasible answer to a number of perceived needs for retirement income. The Commission has examined and rejected this option. The greatest weakness in such an approach lies in the economic consequences for the future. Increasing the monies available to government for these purposes could serve to fuel more inflation. If changes can be made to allocate the savings into capital investment, an increase in saving could result in real growth in GNP. However, mechanisms do not exist for controlling the use of savings in the CPP over the long run to ensure their use as capital investment funds.

Part of the appeal of raising the level of CPP benefits is the apparent low cost of doing so. Various subsidies have been available in the CPP (such as full pensions after only 10 years' contributions) which make a CPP pension look inexpensive. The Commission expects some upturn in the birth rate to ease the intergenerational burden implicit in the funding design of the CPP. However, the real problem arises from the single fact that the true cost of CPP benefits is obscured. To increase the CPP with the same built-in subsidies is only to continue to ignore true costs.

Continuing or increased emphasis on the position of the CPP in a retirement income system, so long as the cost-benefit relationship is not equalized, has a little-realized effect on the whole field of retirement income provision. As we have seen in Volumes VI and VII, the employment pensions provided for employees of the public sector occupy a very large part of employment pension provision. Costs of these pensions are a concern of the Commission and of the public. Nearly all of these plans are integrated with the CPP. Any increase in the benefit structure of the CPP without providing for payment of the full cost of the CPP benefit now (i.e., full funding) would result in a lower cost to the public sector for the portion of its pension promise covered by the CPP. The result would be to obscure further the cost of public sector pension promises.

Finally, in simply increasing the CPP more issues are raised as to how much inflation protection is needed and how it is to be handled.

Third: The Government of Ontario should implement the mandatory retirement savings plan (PURS).

The PURS plan, while requiring a long time to mature, will immediately provide funds for long-term investment, allocated through the private capital markets. The additional capital investment will generate real growth in the GNP. The government will be required to borrow at market rates rather than under artificial rules set up under the CPP. Thus, PURS will increase real earnings before retirement and will provide the resources to pay pensions after retirement built on private capital investment. PURS, with its emphasis on employee control of investment policy, will encourage more people to learn about the investment process.

PURS puts the cost-benefit relationship in clear perspective. If the economy prospers, real rates of growth will enhance the benefits accruing under the PURS plan. Each person will pay for his or her own pension and will also benefit from his or her own contributions. At the same time, the fully-funded basis of this plan with its money-purchase design will contribute to the capacity of the economy to grow and therefore produce the promised retirement income.

Employment Pensions

In spite of the almost unprecedented degree of economic uncertainty which faces Canada as we move into the 1980s, it is necessary that we identify and attempt to deal as promptly as possible with the income needs of the elderly, and take steps to inaugurate a retirement income system that will progressively improve the financial security of the retired population, present and future.

Consistent with that aim, the Commission has arrived at a strategy which leaves government with a well-defined role of ensuring adequacy of retirement income at age 65, and the private sector with an enlarged and more flexible role in assisting individuals to provide for continuation of lifestyles after they retire.

The mandatory plan will enable employers to ascertain and control pension cost and provide all workers with pension coverage and portability. Other retirement arrangements will be matters for individual employers and employees.

Glossary of Pension Terms

Pension plan language displays a great variety in terms and usage from one occupation or firm to another, and often among different professionals. Government pension programs have introduced their own specialized terminology, including new or special meanings for old terms. In public discussion it often happens therefore that two different terms are used interchangeably; or an expression, though technically correct, is applied in a manner sufficiently unusual to confuse many readers - even, on occasion, the well-informed. In the preparation of its report the Commission has made every effort to define and explain all terms used as and when they occur in the text. It was thought useful, however, to include this Glossary, covering as many as possible of the specialized words and phrases occurring in the report itself and likely to be encountered in subsequent discussion of pension issues at various levels. The only items intentionally omitted are those not in general use today, or for which an adequate definition is possible only in the context of a full discussion, as is the case with some actuarial and legislative expressions.

ACCRUED PENSION - Amount of pension credited to a plan member according to service, earnings, etc., up to a given time.

ACTUARIAL ASSUMPTIONS - In an actuarial valuation, a set of estimates of future developments affecting the cost of benefits to be provided under a pension plan (e.g., mortality, salary increases, investment return, employee turnover, retirement ages).

ACTUARIAL EQUIVALENT - Result of a calculation used to reduce or increase the amount of monthly pension payments when taken in a form other than the normal form of benefit - at a different age, or with different survivor conditions, etc. - but representing the same total value over the entire term of the expected payments. For example, a

life pension commencing at age 60 may be a lower monthly amount than one starting at age 65 because a greater number of monthly payments are expected; it is said to be the actuarial equivalent of the age 65 pension when the present value is the same.

ACTUARIAL VALUATION - Examination of a pension plan by an actuary to assess the solvency of the plan and determine the level of contributions required to maintain its solvency.

ACTUARY - A professionally trained specialist in the pension and insurance fields. In Canada, full professional recognition requires membership in the Canadian Institute of Actuaries.

ADDITIONAL VOLUNTARY CONTRIBUTIONS - Contributions to a pension plan, made voluntarily by an employee in addition to those required for specific plan benefits. Extra benefits are purchased by the additional contributions but no additional cost is borne by the employer.

ADEQUACY - A social judgment applied to determine the amount of income to be provided through government programs to the elderly - in this report, persons aged 65 and over. As used in Volume I, Chapter 6, adequacy level is defined as the amount required for adequacy in 1979 for persons who retired at the end of 1978; and adequacy standard is a formula for determining the adequacy level in subsequent years.

AD HOC ADJUSTMENT - Amount added to a pension after retirement, on an irregular basis and not as a result of a prior commitment or contract. To be distinguished from indexing.

AGE DISTRIBUTION - Analysis of the age of a group according to number of members in each age class: e.g., 20-24, 25-29, etc.

AGE PENSION - Term used to distinguish pensions payable on account of a person's age from those payable in event of disability, etc.

AMORTIZATION PERIOD - Period of years over which payments are made into a pension plan to meet the cost of benefits that have not been fully funded. (See Unfunded liability.)

ANNUITY - In pension terminology, periodic payments (usually monthly) provided by the terms of a contract for the lifetime of an individual

(the annuitant); may be a fixed or varying amount, and may continue for a period after the annuitant's death. See Guaranteed annuity; Joint and survivor annuity; Straight life annuity; Level income option; Participating annuity; Variable annuity; Normal form of benefit; Optional form of benefit.

ANNUITY RATE - Price charged by an issuer of annuities to provide a dollar of annuity (usually per month) under specified conditions to an individual based on the person's age, interest rates, etc.

AVAILABLE INCOME - Total dollar value of money income and other benefits received by an individual, including such items as income tax credits and free health plan premiums. (Term used in discussion of Adequacy, Volume I, Chapter 6).

AVERAGE INDUSTRIAL WAGE - The Industrial Composite of Wages and Salaries (weekly) as measured by Statistics Canada and reported in Employment, Earnings and Hours (Cat. 72-002). Usually cited as an annual average.

BENEFICIARY - In a pension plan, a person who, on the death of a plan member or pensioner, may become entitled to a benefit under the plan. (See Survivor benefits, Death benefits.)

BENEFIT - Generally, any form of payment to which a person may become entitled under the terms of a plan; often refers specifically to the normal pension provided by the plan formula.

BENEFIT FORMULA - Provision in a pension plan for calculating a member's defined benefit according to years of service, earnings (career or final average), a fixed dollar amount, etc. (See: Flat benefit; Career average benefit; Final average benefit; see also: Defined contribution plan.)

BEST EARNINGS FORMULA - A defined benefit formula which applies the unit of benefit credited for each year of service to the member's average earnings for a specified period of highest earnings (e.g., best five of the last ten years of service). See also: Final average formula; final earnings formula.

BRIDGING SUPPLEMENT - A supplemental benefit payable in addition to regular benefits under a pension plan to an employee who retires

before becoming eligible for government benefits, but ceasing when OAS or CPP/QPP benefits are payable (or offset by those benefits).

CAREER AVERAGE FORMULA - A defined benefit formula which applies the unit of benefit to earnings of the member in each year of service, and not to final or final average earnings.

CARRIER - General term used to refer to an insurance company, trust company or other financial institution with responsibility for some or all functions under a pension plan.

CASH WITHDRAWAL - A return of personal pension contributions to a member whose employment is terminated.

CHILD-REARING DROPOUT - Provision in Quebec Pension Plan (and Canada Pension Plan, subject to approval of provinces) under which allowance is made for months in which no (or low) contributions were made while the contributor was raising children.

COFIRENTES + - Pension review committee established by the government of Quebec; report released March 14, 1978. (Comite d'etude sur le financement du Régime de rentes du Québec et sur les régimes supplémentaires de rentes.)

COMMUTED VALUE - Amount of an immediate lump-sum payment estimated to be equal in value to a future series of payments. See also: Present value.

COMPOUND INTEREST - Interest credited to the investor at a specified rate and on specified dates, and added to the principal for the purpose of subsequent interest calculations.

COMPULSORY PLAN - A pension plan which eligible employees must join as a condition of employment.

COMPULSORY RETIREMENT - Provision in a pension plan, collective agreement or employer's rules requiring that employee must retire at a certain age or under other specified conditions.

CONTINUOUS SERVICE - Period during which an employee is continuously employed by the same employer; may be defined in a pension plan (or by law) so as to include certain periods of absence, and service with an associated or predecessor employer. To be distinguished from Credited service.

CONTRIBUTION INTEGRATION - Provision for reducing the required contributions to a pension plan by contributions prescribed in the Canada Pension Plan (or QPP). To be distinguished from treatment of contributions in Step-rate integration.

CONTRIBUTORY PLAN - A pension plan which requires the employee to make contributions by payroll deduction in order to qualify for benefits under the plan.

COST CERTIFICATE - The certificate of an actuary, based on an actuarial valuation, setting out costs and contributions required under an employment pension plan. Under pension benefits legislation a cost certificate must be filed when a plan is established and at least every three years thereafter, and when the plan is amended.

CREDITED SERVICE - Periods of employment counted in calculating amount of pension; may also be a basis for qualifying for a particular type of benefit. See also: Continuous service.

CREDIT SPLITTING - See Division of pension credits (CPP).

CURRENT SERVICE - Period of service of an employee after becoming a member of a pension plan. Current service cost usually refers to the cost of benefits credited to members of a plan in a given year. See also: Past service; Unfunded liability.

DEATH BENEFIT - A lump sum (usually), payable from a pension plan to the beneficiary or estate of a member who dies before retirement. May refer to a payment on death after retirement. See also: Survivor benefit; Guaranteed annuity; Joint and survivor annuity.

DEFERRED PROFIT SHARING PLAN (DPSP) - Type of profit sharing plan defined in the Income Tax Act, often used as a defined contribution pension plan. Employee contributions are not deductible from income for tax purposes. See also: Profit sharing pension plan; Employees profit sharing plan.

DEFERRED RETIREMENT - See Postponed Retirement.

DEFERRED VESTED PENSION (ANNUITY) - A specified pension determined at the time of termination of employment or termination of a plan but not payable until some later date, usually normal retirement age. (See Vesting.)

DEFINED BENEFIT PLAN - A plan which defines the pension to be provided (based on service, average earnings, etc.) but not the total contributions. If plan is contributory, the rate of employee contributions may be specified, with the employer paying the balance of cost. To be distinguishe from defined contribution plan.

DEFINED CONTRIBUTION (MONEY-PURCHASE) PLAN - Plan which defines contributions to be made by employer and employees, but not the benefit formula. Accumulated contributions and interest are used to purchase an annuity for the member. To be distinguished from Defined benefit plan.

DEMOGRAPHIC PROJECTION - An estimate of the future size and composition of the population, based on past and current census data and assumptions as to birth and death rates, immigration, etc.

DEPENDENCY RATIO - A demographic expression of the economic relationship of the population outside the labour force to those in the labour force in a given year. Term may refer to all who are inactive (in the economic sense) or just those considered to have retired.

DEPENDENT CHILD'S BENEFIT - Under the Canada Pension Plan (or QPP), a monthly amount payable to each dependent child of a disability pensioner or deceased contributor.

DEPOSIT ADMINISTRATION - A contract with an insurance company to administer a pension plan, but with the employer responsible for solvency until funds are used to purchase annuities, usually at the time of retirement. (See also: Insured plan.)

DISABILITY PENSION - Pension payable to an employee permanently incapacitated due to physical or mental disability.

DISCOUNTED COST - Present value of benefits payable in the future, taking into account estimates of future investment yield and the probability that plan members will live and remain in the plan long enough to qualify for payment of benefits.

DISPOSABLE INCOME - Generally, a person's income from all sources, minus income taxes.

DIVISION OF PENSION CREDITS - Also known as "credit splitting," a provision in the Canada Pension Plan (and QPP) whereby one spouse, on dissolution of marriage, may obtain an equal division of pension credits earned by one or both partners during the period of marriage.

DROP-OUT MONTHS - Under the Canada Pension Plan, certain low-earnings months which are not counted in calculating average contributory earnings on which the contributor's pension is based.

DUES-PAID PLAN - Pensions provided for members of a trade union, financed entirely by regular dues payments, without participation by employers.

EARLY RETIREMENT - Provision in a pension plan for retirement earlier than the normal pension age. The amount of pension credited under the plan formula may be reduced according to the member's attained age; or an unreduced pension may be payable if a specified service condition (e.g., 30 years) has been met. (See also: Special retirement.)

EARNINGS - A person's money income from employment or self-employment; usually excludes such forms of income as rents or bond interest. In some pension plans certain bonuses, sick pay, etc., may be excluded in calculating benefits.

EARNINGS CEILING - See Year's Maximum Pensionable Earnings.

EARNINGS-RELATED PLAN - Any plan with a benefit formula based on earnings (as opposed to a Flat benefit plan). Includes Career average and Final average plans.

EARNINGS TEST - A form of retirement test in which eligibility for a specified pension or supplement is determined on the basis of a person's earnings during a certain period.

ELIGIBILITY REQUIREMENT - A condition such as age or length of service that must be met before an employee is permitted or required to join a pension plan. (Term may refer to eligibility for certain benefits.)

EMPLOYEE-PAY-ALL PLAN - Any pension or retirement savings plan that is organized for or by a group of employees but is not financed by an employer. See also: Dues-paid plan.

EMPLOYEES PROFIT SHARING PLAN (EPSP) - A plan, defined in the Income Tax Act, under which employer contributions must be declared as income by the employee, and employee contributions are not deductible. Benefit payments out of the fund are generally tax-free. See also: Deferred profit sharing plan; Profit sharing pension plan.

EMPLOYMENT PENSION PLAN - A pension plan offered by an employer or supported by a group of employers for the benefit of employees. As used in this report, the term includes plans covering employees of governments and public agencies but does not include the Canada Pension Plan or other public programs.

ENTRY AGE NORMAL - A costing method used in arriving at a level premium cost for a group. It bases costs on the average career of employees from an assumed average age of entry into the the plan to normal retirement age. (See: Level premium, Single premium.)

EXCESS EARNINGS - In discussion of inflation, earnings from investments of a pension fund in excess of an assumed or expected rate of return.

EXPERIENCE DEFICIENCY - An unfunded liability, revealed by an actuarial review of a pension plan, resulting from a difference between actual experience (investment earnings, salary levels, etc.) and assumptions made at the time of a previous valuation.

FINAL AVERAGE (EARNINGS) FORMULA - A defined benefit formula which applies the unit of benefit credited for each year of service to the member's average earnings for a specified number of years just before retirement. See also: Final earnings formula; Best earnings formula.

FINAL EARNINGS FORMULA - A defined benefit formula which applies the unit of benefit credited for each year of service to the member's final salary rate or annual earnings immediately before retirement. See also: Final average formula; Best earnings formula.

FINAL PAY PLAN - Term commonly used for any pension plan whose benefits are based on earnings in a member's last years of service. See: Final average formula; Final earnings formula; Best earnings formula.

FLAT BENEFIT FORMULA - A defined benefit formula which specifies a dollar amount of pension to be credited for each year of service. Term should be distinguished from Flat rate pension.

FLAT RATE PENSION - A defined benefit expressed as a dollar amount of monthly pension, not related to service or earnings, but paid on retirement after meeting certain qualifying conditions. See for example, Old Age Security.

FULLY FUNDED - Term describing a plan which, at a given time, has sufficient assets to provide for all pensions and other benefits in respect of service up to that date.

FUNDED RATIO - Ratio of the assets of a pension plan to its liabilities.

FUNDING - Systematic payments into a fund which, with investment earnings, are expected to provide for all pensions and other benefits as they become payable. See: Fully funded; Provisionally funded; Terminal funding.

FUTURE SERVICE BENEFIT - Term used to refer to a current service benefit formula that differs from that for past service. See also: Current service; past service.

GAINS - See Guaranteed Annual Income System.

GOING CONCERN BASIS - Refers to the assumption, when making an actuarial valuation, that the pension plan will continue in operation indefinitely.

GOVERNMENT PROGRAM - Any legislative program under which benefits (pensions, income supplements, etc.) are provided by a government in its role as government rather than its role as an employer; e.g., Old Age Security, Canada Pension Plan, Guaranteed Income Supplement.

GROUP ANNUITY - A contract under which an insurance company agrees to provide retirement pensions to members of a group.

GUARANTEED ANNUAL INCOME SYSTEM (GAINS) - An Ontario government program providing monthly income supplements to certain needy residents, based on a guaranteed amount of annual total income. "GAINS-A" benefits apply to those aged 65 and over; "GAINS-D" benefits are for the blind and disabled.

GUARANTEED ANNUITY - An annuity which will be paid for the lifetime of a person, but in any event for a minimum period; e.g., if annuity is guaranteed for five years and the annuitant dies after three years, payments will be continued to a beneficiary or the estate for two years. See also: Survivor benefit.

GUARANTEED INCOME SUPPLEMENT (GIS) - A monthly payment under the federal Old Age Security Act to needy recipients of the OAS pension, based on a guaranteed minimum income amount. See: Old Age Security; Guaranteed Annual Income System (GAINS); Spouse's Allowance.

INCOME (PERSONAL) - Generally, all monies received by or credited to a person; may be defined to include receipt of certain goods or services, as well as non-earned income (interest, rents, etc.). For purposes of income tax and government support programs some forms of income may be excluded; or certain deductions may be allowed in computing net income.

INCOME SUPPLEMENT - A regular payment made to a person, usually on the basis of need or other special circumstances, in addition to other income such as earnings or pensions. See: Guaranteed Income Supplement; Guaranteed Annual Income System (GAINS); Spouse's Allowance.

INCOME TEST - Method by which the income of a person or family is taken into account in determining eligibility for (or amount of) a payment under a government program. See: Guaranteed Income Supplement; Guaranteed Annual Income System (GAINS); Spouse's Allowance.

INDEXING - Provision for periodically adjusting a benefit amount (usually after retirement) according to a formula based on a recognized index of price or wage levels, e.g, the Consumer Price Index. To be distinguished from Ad hoc adjustment.

INDIVIDUAL ANNUITY - Annuity purchased for an individual and held in trust by the employer until the person's retirement. Plan may be referred to as a pension trust.

INFLATION TAX CREDIT - A system of tax credits recommended in Volume II, Chapter 10, to offset a portion of inflation cost for retired persons.

INITIAL UNFUNDED LIABILITY - See Unfunded liability.

INSURED PENSION PLAN - A plan in which all benefits are purchased from and guaranteed by an insurance company as contributions are received.

INTEGRATION - Provision in a pension plan which relates plan contributions and/or benefits to those of a government pension program, e.g., Canada Pension Plan. Not to be confused with Level income option. See also: Contribution integration; Step-rate integration; Offset integration; Bridging supplement.

INVESTMENT RETURN (YIELD) - Earnings of a pension fund including interest on fixed income securities (bonds, mortgages, etc.) dividends, capital gains, etc.

JOINT ADMINISTRATION - Provision for a union-management committee or board to assume supervisory functions relating to a pension plan. May include provisions for final and binding settlement of disputes.

JOINT AND SURVIVOR ANNUITY - An annuity payable until the death of the retired employee, and continuing thereafter to the surviving widow or widower until that person's death. Commonly provided as an option at the time of retirement; may be available as a level amount or with reduction when one annuitant dies. See also: Survivor benefit.

LEVEL INCOME OPTION - Also referred to as a "notched" option: provision for employee, at time of retirement, to elect an increased pension, subject to a reduction by a specified amount when the retiree becomes eligible for pension under a government program. To be distinguished from integration.

LEVEL PREMIUM FUNDING - Funding method in which equal annual payments, per employee or a percentage of payroll, are contributed to a pension fund over the estimated working life of employees in a pension plan to

fund all benefits under the plan. To be distinguished from single premium funding.

LIFE EXPECTANCY - Number of years a person of given sex and age is expected to live, based on statistics of mortality. See: Mortality table.

LOADING - An amount added to the estimated cost of a pension plan to provide for expenses of a variable or minor nature; e.g., special retirement pensions, trustee fees.

LOCKING-IN - Requirement under legislation that pension contributions made after a certain date cannot be withdrawn or otherwise forfeited if the employee on termination of employment has attained a certain age or has completed a certain period of service or plan membership. See Vesting.

MANDATORY PENSION PLAN - An employment pension plan which employers are required by law to establish and maintain for their employees. See also: Provincial Universal Retirement System (PURS).

MANDATORY RETIREMENT - See Compulsory retirement.

MAXIMUM PENSIONABLE EARNINGS - See Year's Maximum Pensionable Earnings (YMPE).

MEANS TEST - Method by which a person's assets as well as income are taken into account in determining eligibility for or amount of payment under a government program. See Old Age Pensions.

MINIMUM WAGE - Lowest rate of pay an employer may pay to an employee according to applicable minimum wage legislation (provincial or federal).

MONEY-PURCHASE PLAN - See Defined contribution plan.

MORBIDITY RATES - Statistics showing the incidence of specific physical and mental ailments in large groups, by age, sex, occupation, etc.

MORTALITY TABLE - A table showing expected rates of death at various ages for people born in various periods. Used by actuaries to arrive at mortality assumptions when estimating the cost of pensions for a group. Term unisex is used when mortality estimates for males and females are combined in a single table.

MULTI-EMPLOYER PLAN - A pension plan covering employees of more than one employer, usually by agreement with a union or group of unions.

NEEDS TEST - Method of assessing a person's or family's expenditure requirements (shelter, food, fuel, etc.) in relation to other income or means, to determine amount of income support to be provided under a government program (e.g., in most provincial family benefit programs). See also: Income test; Means test.

NET REPLACEMENT RATIO - Measurement of adequacy of retirement income by relating it to income immediately before retirement, taking into account income taxes, tax credits, etc.

NON-CONTRIBUTORY PLAN - A pension plan in which all required contributions are made by the employer.

NON-PENSION BENEFIT - Any benefit or privilege provided by governments or private organizations to retired persons; e.g., employer-paid life insurance; free prescription drugs; reduced fares for transportation; subsidized housing.

NORMAL COST - Amount of annual contribution required to pay for the current service cost of a pension plan. Term usually refers to a level premium, based on a "normal" age assumption (e.g., entry age normal).

NORMAL FORM OF BENEFIT - Amount and other features of the annuity (pension) payable on retirement unless the plan member elects an optional form of benefit.

NORMAL PENSION - Amount of pension, according to the benefit formula, to which an employee is or would be entitled on reaching normal retirement age, based on earnings and/or service. See also: Benefit formula; Early retirement.

NORMAL RETIREMENT AGE - The age specified in a pension plan at which employees are expected to retire; may be the earliest age at which an unreduced pension is payable. See also: Early retirement; Normal pension.

OFFSET - Generally, the amount of one type of benefit used to reduce the amount of another benefit payable to a person, e.g., a disability pension where disability insurance benefits are provided by the same employer. For reference to government pension programs, see Offset integration.

OFFSET INTEGRATION - Provision in a pension plan for directly reducing a plan benefit by all or a portion of pensions payable to the individual from a government program. See also: Step-rate integration; Contribution integration.

OLD AGE PENSIONS - Usually refers to pensions formerly paid under a federal statute to aged residents who could qualify under a means test. (Program replaced in 1952 by the Old Age Security Act).

OLD AGE SECURITY (OAS) - Federal program providing a universal, flat rate pension to all residents aged 65 and over, regardless of need; also provides income-tested supplements: see Guaranteed Income Supplement, Spouse's Allowance.

OPTIONAL FORM OF BENEFIT - Form of annuity which a plan member may elect on retirement, differing from the normal form of benefit in amount and other conditions but of actuarially equivalent value. See also: Guaranteed annuity; Joint and survivor annuity; Straight life annuity; Level income option; Participating annuity; Variable annuity.

PARTICIPATING ANNUITY - A form of annuity in which the contractual amount of regular payments may be increased to reflect investment returns that are higher than originally assumed. (To be distinguished from Variable annuity.)

PAST SERVICE - Period of service of an employee before becoming a member of a pension plan. Term may be used to define certain benefits that differ from those for current service (future service). See also: Current service; Future service; Unfunded liability.

PAY-AS-YOU-GO PLAN - Term used for benefits that are not funded except as and when they are paid to individuals; i.e., payment is made from current revenue or other sources outside the plan as such.

PENSION - Generally, any regular periodic payment to a person who has retired from the service of an employer or has met certain age or other conditions for payments under a government pension program. See also: Annuity.

PENSION FORMULA - See Benefit formula.

PENSIONABLE EARNINGS - Defined portion of an individual's total earnings, used in calculating pension entitlement (e.g., excluding certain bonuses). See also: Year's Maximum Pensionable Earnings (YMPE) - term used in Canada Pension Plan.

PENSION BENEFITS LEGISLATION - Laws and regulations under which employment pension plans must be registered and meet prescribed standards relating to vesting, solvency, investments, etc. In Ontario, the Pension Benefits Act.

PENSION BOARD (COMMITTEE) - Group of persons designated according to the terms of a pension plan to oversee various administrative functions. Members may be trustees of the plan.

PENSION COMMISSION OF ONTARIO - Commission responsible for administering the Pension Benefits Act.

PENSION PLAN - A plan organized and administered to provide a regular income for the lifetime of retired members; other benefits that may be provided include payments on permanent disability, death, etc. See also: Annuity.

PENSION TRUST - See Individual annuity.

PLAN TERMINATION - Discontinuance of an employment pension plan, voluntary or involuntary (e.g., as in bankruptcy); wind-up procedure regulated by pension benefits legislation. See also: Priorities.

POOLED FUND - Funds of two or more pension plans, held by a financial institution and combined for investment purposes in a single fund, each plan sharing rateably in the net income from investments.

POOLING - In pension plans, term used to describe any method by which certain risks or costs are shared by all members of a group, and certain group advantages are gained. (Term may also refer to a method of fund investment; see: Pooled fund).

PORTABILITY - Extent to which an individual is provided on retirement with pension income which recognizes all periods of employment with various employers. See also: Vesting.

POSTPONED (LATE) RETIREMENT - Retirement of a member later than the time prescribed for normal retirement.

PRESENT VALUE - Amount of money which, if invested today at a given rate of compound interest would provide a defined benefit commencing at a specified future date.

PRIORITIES (PLAN TERMINATION) - A set of rules, in an employment pension plan or legislation, under which the assets of a plan that is discontinued are allocated among members and beneficiaries to provide as far as possible for all accrued benefits.

PRIVATE PENSION PLAN - See Employment pension plan.

PRIVATE SECTOR PLAN - An employment pension plan offered by an employer or by employers and unions (multi-employer plan) in the private sector.

PROFIT SHARING PENSION PLAN (PSPP) - Type of plan defined in the Income Tax Act: money-purchase, with employer's contribution expressed as a share of profits but subject to a minimum annual amount equal to 1 per cent of member's earnings. See also: Defined contribution plan; Deferred profit sharing plan; Employees profit sharing plan.

PROVINCIAL UNIVERSAL RETIREMENT SYSTEM (PURS) - Mandatory pension plan to be provided by all employers, as recommended in this report (Volume II, Chapter 12).

PROVISIONALLY FUNDED - In pension benefits legislation, term used to describe a pension plan that is not fully funded but is "solvent" - i.e., current service costs are being met year by year, and special payments are being made to amortize all unfunded liabilities.

PUBLIC PENSION PROGRAM (PLAN) - Also referred to as "government program." A legislative program providing pension benefits from the government in its role as a government rather than its role as an employer; e.g., Old Age Security, Canada Pension Plan. To be distinguished from Public sector plan.

PUBLIC SECTOR PLAN - An employment pension plan offered by an employer in the public sector, covering civil servants, teachers, municipal employees, etc. (As used in Volumes VI and VII, term refers to such plans in Ontario only). Not to be confused with Public pension program.

REGISTERED PENSION PLAN - An employment pension plan accepted for registration for tax purposes under the Income Tax Act, and/or for registration under applicable pension benefits legislation.

REGISTERED RETIREMENT INCOME FUND (RRIF) - Form of investment vehicle permitted under the Income Tax Act for funds an individual has accumulated in a Registered Retirement Savings Plan that has "matured."

REGISTERED RETIREMENT SAVINGS PLAN (RRSP) - A personal retirement savings plan, defined in the Income Tax Act, under which tax is deferred on contributions and investment income until received as annuity payments.

REMARRIAGE CLAUSE - Provision for a surviving spouse's pension to be discontinued if he or she remarries; may include provision for renewal of payments if that marriage is later terminated.

REPLACEMENT INCOME - Regular payments (e.g., a pension) from a program whose purpose is to replace income which the individual previously obtained from employment. See: Net replacement ratio.

RETIRED LIVES FUND - In a trusteed pension plan, a segregated group of assets representing the value of all benefits for those who have retired under the plan; excess earnings of these assets may be avail-

able to increase the amounts of monthly pension payable. See also: Participating annuity.

RETIREMENT - Withdrawal from the active work-force because of age; may also be used in the sense of permanent withdrawal from the labour force for any reason, including disability.

RETIREMENT INCOME - Income from pensions and other sources, to which a retired person is entitled. Term may include both private and public pension payments, income from personal savings, government income supplements, and imputed income (e.g., free health insurance premiums).

RETIREMENT TEST - Under a government program or employment pension plan, a method of determining that a person has actually left the labour force and so qualifies for a specified pension or supplement.

RETURN OF CONTRIBUTIONS - See Cash withdrawal.

SALARY SCALE - In pension costing, an estimate of future increases in wages and salaries of plan members whose benefits are based on earnings.

SEGREGATED FUND - Assets of a pension plan held by an insurance company for investment management only; funds are segregated from assets of the insurance company, and principal and interest are not guaranteed. To be distinguished from Insured pension plan and Deposit administration. See also: Trusteed pension plan.

SELF-ADMINISTERED PLAN - See Trusteed pension plan.

SINGLE PREMIUM FUNDING - Funding method in which current service cost is the present value of benefits provided under the plan for service during the current year. To be distinguished from Level premium funding. See also: Current service cost.

SOCIAL SECURITY - Term used to refer to a system of government programs providing for income security of individuals, especially the aged, disabled, etc. In Canada, the term as applied to the elderly usually includes Old Age Security, income supplements (federal and provin-

cial), the Canada and Quebec Pension Plans; may include other income support programs.

SOLVENCY - In a pension plan, the ability of the plan to meet its present and future obligations; the adequacy of provisions for funding.

SPECIAL RETIREMENT - Term used in some pension plans for conditions under which an employee may retire, usually with a normal pension, in certain exceptional circumstances, e.g., job redundancy. Term may be used in the broader sense of any provision for retirement on a normal (unreduced) pension earlier than normal retirement age.

SPLIT FUNDING - Practice whereby a non-insured pension plan purchases an annuity (i.e., an insured benefit) for each member at the time of retirement, instead of making monthly payments directly from the pension fund.

SPOUSE'S ALLOWANCE - Under the Old Age Security Act, a monthly payment, based on family income, payable to the spouse aged 60 to 65 of an OAS pensioner. See also: Old Age Security; Guaranteed Income Supplement; Guaranteed Annual Income System (GAINS); Income test.

STACKING - Term sometimes used for a pension design in which there is no integration: that is, plan contributions and benefits are not related to those in any government pension program. See Integration.

STEP-RATE INTEGRATION - Provision in a pension plan for different rates of contributions and benefit accrual in respect of an employee's earnings below and above the YMPE (earnings ceiling) of the Canada/Quebec Pension Plan.

STRAIGHT LIFE ANNUITY - An annuity which is payable only during the lifetime of the annuitant; i.e., is not guaranteed to be paid for a minimum period and no part of which is payable to another person after the annuitant's death. See also: Optional form of benefit.

SURVIVING SPOUSE'S PENSION - A monthly benefit payable under a pension plan to the surviving spouse of a deceased employee or pensioner; usually refers to a benefit other than payments under a guaranteed annuity or joint and survivor annuity.

SURVIVOR BENEFIT - Generally, any benefit payable under a pension plan to the surviving spouse or dependent of a plan member who dies before or after retirement. See also: Surviving spouse's pension; Guaranteed annuity; Joint and survivor annuity; Death benefit.

TAX-BACK - Term commonly used for a reduction in amount of a person's income supplement because of income (of the individual or family) from other sources.

TAX CREDIT - Provision for a reduction of income tax payable (not a deduction from taxable income) by an amount of other taxes payable or a portion of housing or other expenses of the taxpayer; e.g., Ontario Tax Credits. Tax credit is said to be "refundable" if it is payable to a person with no taxable income.

TAX-DEDUCTIBLE - Refers to a type or amount of income which may be deducted from a person's total income in computing net or taxable income; e.g., registered pension plan contributions; pension income (up to $1,000 per year). See also: Tax credit.

TAX DEFERRAL - Provision in the Income Tax Act whereby certain pension and similar contributions are tax-deductible and employer contributions and investment income are not included in a member's current taxable income; but benefit payments are considered income for tax purposes in the year in which they are received.

TAX SHELTER - Generally, any savings arrangement entitled to tax deferral and therefore involving the probability that payments when received by the individual will be taxable at a lower rate than would apply in the year the income was first received or credited.

TERM CERTAIN ANNUITY - See Guaranteed annuity.

TERMINAL FUNDING - Method of funding whereby monies required to provide a member's pension are paid into the fund or used to purchase an annuity only at the time of retirement, and not regularly over the period of employment. (This method is not permitted under pension benefits legislation.)

TERMINATION OF EMPLOYMENT - Severance of the employment relationship for any reason other than death or retirement.

TERMINATION RATES - In pension costing, the observed or estimated rate of termination of employment for reasons other than death and retirement.

TRUST AGREEMENT (OR DEED) - An agreement setting out the duties and responsibilities of a trustee or trustees under a pension plan.

TRUSTEED PENSION PLAN - An employment pension plan whose funds are held and invested by trustees, and the plan sponsor is responsible for making sufficient contributions to maintain the plan's solvency. Benefits are not insured except to the extent annuities are purchased (see Split funding).

TURNOVER - See Termination of employment.

TURNOVER RATES - See Termination rates.

UNDERWRITER - Anyone who undertakes to provide future payments (e.g., pensions) in certain specified circumstances, in return for premiums paid by or on behalf of those who may become entitled to benefits; usually refers to an insurance company. See Insured pension plan.

UNFUNDED LIABILITY (UNFUNDED ACTUARIAL LIABILITY) - Generally, any amount by which the assets of a pension plan are less than its liabilities. An initial unfunded liability exists when benefits are created in respect of prior service (e.g.) and not provided for in current service contributions. See also: Experience deficiency; Funding.

UNION PENSION PLAN - Plan sponsored by a trade union; usually refers to a dues-paid plan (see definition) but may mean a plan financed by employer contributions (see Multi-employer plan).

UNISEX MORTALITY TABLE - See Mortality table.

UNIT BENEFIT FORMULA - Any defined benefit formula providing a benefit credit expressed as a percentage of a member's earnings for each year of service. (To be distinguished from flat benefit formula). See: Best earnings formula; Career average formula; Final average formula; Final earnings formula.

UPDATING (BENEFITS) - Term applied to the occasional review and increase of accrued benefits to reflect rising wage levels where the plan does not provide for automatic improvement as in a final average formula.

VALUATION - See Actuarial valuation.

VARIABLE ANNUITY - A pension whose amount varies according to the market value of the fund, usually invested in common stocks. In theory, this feature may compensate the retiree for the effects of inflation.

VESTING - The right of an employee, on termination of employment, to part or all of his or her accrued pension; usually requires locking-in of employee's contributions. Vesting is usually in the form of a deferred annuity commencing at retirement age. Vesting is said to be contingent or conditional if employee has the option of cash withdrawal. Statutory vesting occurs when employee meets the age and/or service conditions set out in pension benefits legislation (in Ontario currently, age 45 and 10 years' service or plan membership) and applies to benefits accrued after a specified date (Jan. 1, 1965 in Ontario). Cash vesting is a return of both employer and employee contributions if not restricted by statutory vesting.

VOLUNTARY ADDITIONAL CONTRIBUTIONS - See Additional voluntary contributions.

WAGE INDEXING - A method of indexing based on movements in average wages and salaries.

WAITING PERIOD - Period of service with an employer before an employee fulfils eligibility requirements for membership in a pension plan.

WIDOW'S PENSION - See Surviving spouse's pension.

WINDING-UP (OR WIND-UP) - See Plan termination.

WITHDRAWAL RATES - See Termination rates.

YEAR'S MAXIMUM PENSIONABLE EARNINGS (YMPE) - Term used in Canada Pension Plan, often referred to as the earnings ceiling: the maximum amount of annual earnings from employment on which CPP contributions and benefits are calculated. YMPE is changed each year according to a formula based on average wage levels.